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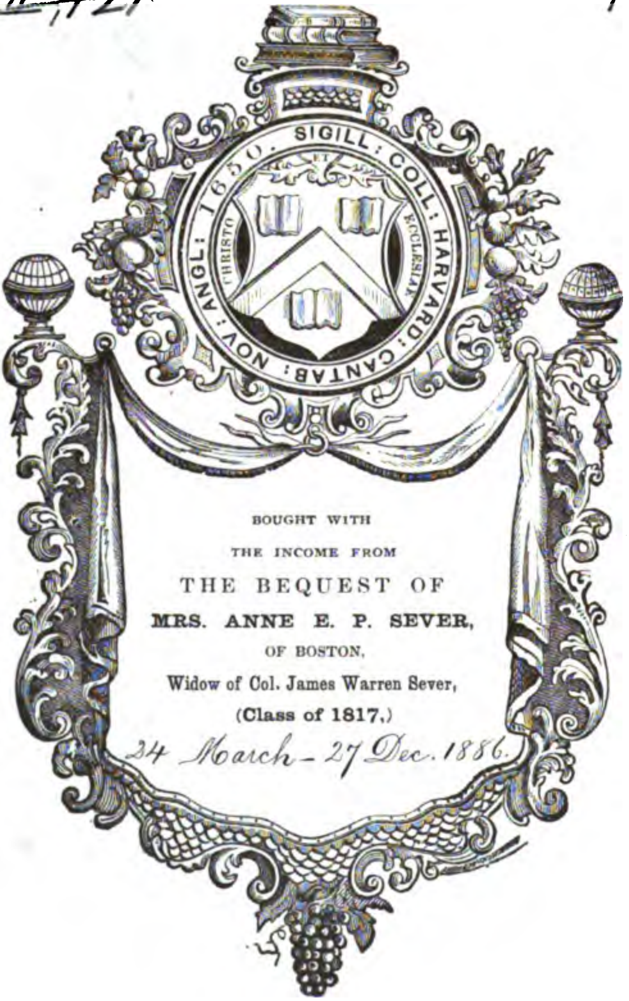
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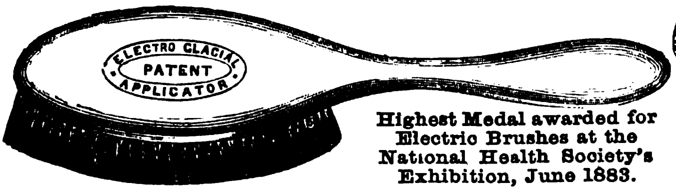

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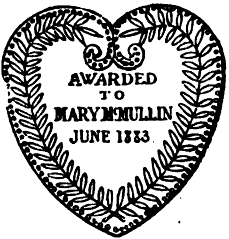

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ARTICLE 5009.

WYSS ON THE USE OF CUCAINE.

DR. WYSS, of Geneva, contributes a paper on this subject to *Der Fortschritt*, Nov. 5, 1885.

The anæsthetic properties of cucaine rapidly rendered this remedy very popular, and led to its trial in a multitude of affections.

Professor Manasseïn, of St. Petersburg, has lately employed it with signal success in sea-sickness on himself and a number of fellow-passengers. This fact induced the author to test the efficacy of cucaine in the vomiting of tuberculosis. Although he has only given it during the short period of a fortnight, he already is able to record excellent results in three tuberculous patients suffering almost daily from distressing vomiting. He prescribed the cucaine in solution for swabbing the pharynx or for internal use, *e.g.* Cucaini muriatici, gr. viij. (0·5 gramme); aquæ destill, ℥j.-℥jss. (30 to 50 grammes); alcohol, q.s. (N.B. The alcohol is added in order to render the solution more stable.) From 5 to 10 minims are to be taken in water before or after meals, or at the time of the most violent attacks of coughing (usually in the morning and in the evening).

According to a communication in the *Philadelphia Therapeutical Gazette*, Dr. Greenwell, of Cleburne, Texas, prescribed this remedy with complete success to a child, aged 3 years, suffering from croup. The few details of the case, given by Dr. Greenwell, make it doubtful whether the complaint was genuine diphtheritic croup, or rather stridulous laryngitis or false croup. In the latter disease cucaine might be beneficial; but the symptoms generally appear and cease too rapidly to allow time for the use of this medicine in every instance. Kohts, of Strasburg, who tried cucaine in a number of cases of angina and croup, generally only observed a temporary diminution of pain and of dysphagia.

Cases of successful treatment of whooping-cough with cucaine are also reported. This disease being extremely rare at Geneva, the author has had no opportunity yet of giving it a fair trial.

Walle and Jaeckel have published in the *Deutsche Medicinal Zeitung* favourable results from the employment of cucaine in the treatment of morphia-mania, by withholding morphia. Subcutaneous injections of muriate of cucaine to as much as 12 grains daily, materially assisted in carrying out with greater facility and more rapidly the complete and definitive subtraction of morphia. As symptoms, probably due to the use of cucaine, however, general weakness, faintness, and occasionally icteric discoloration of the skin, have been noticed.

Erlenmeyer, who had tried cucaine for the same purpose, denies its efficacy altogether. At the utmost, he observed a very slight momentary diminution of the mania, but he never experienced a permanent influence of cucaine in the course of treatment of morphia-mania by subtraction of morphia.

Dr. J. L. Corning, in the *New York Medical Journal*, reports a series of observations on the production of local anæsthesia by subcutaneous injection of hydrochlorate of cucaine, the principal advantage of which, according to his view, consists in submitting the nervous fibres during a longer or shorter time to the action of this anæsthetic agent. This method will be likely to find extensive use in surgery, and in the treatment of neuralgia and other affections of the peripheric nervous system.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5010.

BELLARMINOFF, TIKHOMIROFF, AND REICH ON CUCAINE IN OPHTHALMIC PRACTICE.*

IN the *Russkaia Meditzina*, No. 38, 1885, p. 693, Dr. L. E. Bellarminoff, house-physician to Professor V. J. Dobrovolsky's Ophthalmological Clinic, in St. Petersburg, describes his observations concerning the action of cucaine on the accommodation, pupil, palpebral fissure, and adduction.

1. *Accommodation* was studied in twenty cases, cucaine being introduced into the eye either in substance, or in a 2 or 5 per cent. solution, sometimes for two to seven successive days, from four to six times daily. The conclusions arrived at are these. 1. The proximal point invariably recedes. In young subjects with emmetropic or slightly myopic eyes, the recession is, in average, not more than 1½ inch. 2. In presbyopic and hypermetropic cases the recession is more considerable (about 3 inches), simultaneously micropsia being observed; the latter lasts for a certain period, even after the proximal point has returned to its normal stand. 3. Paresis of accommodation, though in a lesser degree, is observed also in moderately and highly myopic subjects (meanwhile, Weber has found in myopes an approximation of the nearest point under cucaine). 4. As a rule, paralysis of accommodation occurs almost simultaneously with dilatation of the pupil, but the maximal dilatation comes somewhat earlier than the greatest degree of paralysis of accommodation. Under prolonged use of cucaine, accommodation varies approximately within the same limits as after only one or two instillations. Stronger solutions of the drug, as well as cucaine in substance, remove the proximal point somewhat further, but nevertheless they are also unable to overpower spasm of accommodation.

2. *Dilatation of the Pupil* from cucaine was studied parallel with that from atropine, the measurements being taken by means of Helmholtz's ophthalmometer. From this series of observations the author draws the following conclusions. 1. As a mydriatic, cucaine is weaker than atropine. 2. The combined action of cucaine and atropine gives a considerably greater dilatation of the pupil, comparatively with the usual maximum dilatation. Hence, a mixture of the two alkaloids may be recognised as the most powerful mydriatic known. [This statement, which is identical with that by Mr. Jessop, was first made by Dr. Bellarminoff at the meeting of the St. Petersburg Russian Medical Society on Dec. 6 (18) 1884, *see* the *Vratch*, No. 50, 1884, p. 850.—*Rep.*] 3. The difference between cucaine-mydriasis and atropine-mydriasis varies within wide limits. The least difference is observed in myopes, in whom cucaine gives mydriatic effects

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* BELLARMINOFF, L. E.—On the Action of Cucaine on the Eye (*Russkaia Meditzina*, No. 38, 1885, pp. 693-95).

almost equal to those produced by atropine. It is greater in presbyopes and still greater in hypermetropes. 4. In cases of mydriasis depending upon paralysis of the oculo-motor nerve, cucaine produces a further extremely striking dilatation of the pupil. 5. From the above facts, it becomes evident that cucaine produces mydriasis by stimulating the endings of the sympathetic nerve.

3. *Enlargement of the Palpebral Slit* is dependent upon (*a*) decrease of reflex stimulation of the palpebral sphincter, and (*b*) stimulation of the branch of the sympathetic nerve which presides over the contractions of Müller's palpebral muscle. Hence cucaine proves a valuable means for controlling blepharospasm, with flow of tears.

4. *The Power of Adduction* does not undergo any change from cucaine (though Weber did find an increase). In conclusion, Dr. Bellarminoff draws attention to a peculiar untoward effect of frequent instillation of strong cucaine solutions, which consists in desquamation of the epithelial cells of the cornea, the latter becoming uneven and facetted on its anterior surface. The desquamation is accompanied by decrease in acuteness of vision. Within from six to twelve hours, however, everything returns to the normal state. A similar observation was recently published by Dr. Bunge in the *Klin. Monatsbl. für Augenheilkunde*, Sept. 1885.

At a meeting of the St. Petersburg Russian Medical Society, Dr. Nikolai J. Tikhomiroff[*] reported (*Vratch*, No. 50, 1884, p. 850) that he had used cucaine either in a 5 per cent. solution (of the hydrochlorate), or in vaseline ointment (with the pure alkaloid) in a number of ophthalmic cases. Anæsthesia of the conjunctiva and cornea developed itself the more rapidly, the greater was the strength of the solution or ointment used; it lasted about six minutes in the case of a 1 per cent. solution, and from ten to fifteen minutes in that of a 1 per cent. ointment. Dilatation of the pupil occurred not earlier than fifteen minutes after the introduction of the drug. Only the bulbar conjunctiva grew pale, but not the palpebral. The best results were obtained by Dr. Tikhomiroff in cases of iridectomy, extraction of cataract, discission of secondary cataract; then in blepharospasm of a conjunctival origin, and in keratitis. In operations for strabismus, the division of the muscle was painful. No relief of pain was obtained in glaucoma.

In the *Russkaia Meditzina*, No. 30, 1885, p. 556, Dr. Mikhail J. Reich,[†] of Tiflis, records two cases in which the employment of a 2 per cent. solution of hydrochlorate of cucaine in the course of ophthalmic operations gave rise to general toxic symptoms. In one of the patients, a girl, aged 10, who was undergoing iridectomy for leucoma, about twelve or fifteen drops of the solution were instilled (three drops at a time, at intervals of several minutes). The operation having been completed absolutely without pain, the patient returned home with her mother and immediately went to bed, as she felt very poorly: there appeared considerable prostration, paleness, nausea, and vomiting. On the next morning, however, the girl was brought to the author quite well and cheerful, the wound having been united. In another out-patient, an old, but fairly hale woman, aged 60, discission of consecutive cataract was performed, and from eight to ten minims of the solution, in three doses, were instilled into the conjunctival sac. In about two hours after the operation (which was entirely painless), there appeared pain in the eye operated upon, headache, considerable general weakness, frontal perspiration, tremor of the hands, and giddiness. The pain and headache disappeared in about half-an-hour; the remaining symptoms lasted, though gradually decreasing, till the night. These are the only two cases of cucaine-poisoning which have come under the author's observation, though he uses the drug daily in numerous cases, and often in stronger (3 and 4 per cent.) solutions, the dose sometimes reaching 3 centigrammes of the dry alkaloid.

Dr. Reich is inclined to explain the cases above either by an idiosyncratic susceptibility of the patients to cucaine, or by the preparation being impure (possibly, falsified by the admixture of apomorphine). At all events he advises, in cucainising children and weak adults, to constantly keep in view a possibility of some untoward symptoms, even after the use of trifling quantities of the drug.

V. Idelson, M.D.

Article 5011.

KATZAUROFF ON THE ACTION OF FULL AND PODAL HOT BATHS ON THE EYE.

In the *Vratch*, Nos. 1 and 2, 1884, Dr. J. N. Katzauroff, of Jaroslavl, describes the experiments with full and foot hot water baths, which he has undertaken, conjointly with Dr. J. J. Orloff, to elucidate their action on the circulation in the eye and intra-ocular tension.

1. The *action of full baths* was studied (*a*) in fifteen subjects with *normal* eyes, thirteen of them being pupils of the local school for *feldshers* (assistant-surgeons), aged from 15 to 20; one shopman, aged 40; and a woman, aged 30. In each of the cases a bath at 32° R., of fifteen minutes' duration, was employed. The following changes in the eye were found. 1. In a majority of the cases (in 11 of 15) the discs became considerably paler, in consequence of collapse of their capillaries. 2. As often (in 11 of 15) the retinal arteries became contracted, and the veins dilated. 3. In 13 of 15 cases a more or less considerable decrease in intra-ocular tension was observed, the phenomenon being dependent upon sinking of the blood-pressure in the ocular vessels. In the two cases where intra-ocular tension remained unchanged, no change in the blood-pressure was noted. 4. Within eight or ten minutes after the bath, the discs regained their normal colour, or even became somewhat rosier than they had been before the experiment; the change being always coincident with an improvement of the pulse, and usually with dilatation of the ophthalmic arteries and rise of the intra-ocular tension.

(*b*) In two cases of *glaucoma* and in one of *congested disc*. In one of the glaucomatous cases, that of an anæmic, weak woman, aged 43, with pronounced atheromatous degeneration of the aorta, the hot bath produced both a marked depression in the cardiac action and fall of the intra-ocular tension. In the other glaucomatous case, that of a man, aged 60, with nothing abnormal in the heart or vessels, no change either in the arterial or in the intra-ocular tension was observed. In the case of

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[*] Tikhomiroff, N. J.—On the Use of Cucaine in Ophthalmic Practice. (*Vratch*, No. 50, 1884, p. 850.)

[†] Reich. M. J.—On the Toxic Effects of Cucaine in Ophthalmic Practice. (*Russkaia Meditzina*, 1885, No. 30, pp. 556–57.)

congested discs, the hot bath markedly diminished œdematous swelling of the papilla, and increased the volume of the retinal arteries. From all the facts sketched above, Dr. Katzauroff draws the general conclusion that 'full hot baths in a majority of cases diminish the amount of blood in the posterior segment of the eye, but this diminution takes place only when the blood-tension is sinking, that is, only when the cardiac action is growing weaker.'

Discussing the practical question whether 'full hot baths may be used as a derivative means in cases of hyperæmia of the posterior segment of the eye,' the author gives a negative answer, in view of the bath producing a weakening action on the heart. To obtain an actual diminution of congestion within the eye, it would sometimes be necessary to bring the patient almost to a fainting condition. Besides, the derivative influence of the bath, of this 'double-edged weapon,' is not constant.

2. *Foot-Bath.*—As is well known, ophthalmologists attribute to podal hot baths a derivative action in regard to the eye, and, accordingly, recommend their employment in order to diminish ocular congestion. Thus, Professor Gustav J. Braun, of Moscow, in his *Handbook of Ophthalmic Diseases*, advises the use of podal hot baths, with addition of hydrochloric and nitric acid, in cases of posterior staphyloma. Professor Szokalski, in his *Ophthalmology* (translated into Russian by Professor M. Voinoff), regards the baths even as a powerful derivative, and explains their action by a simple determination of the blood to the legs. Professor Ed. Meyer, of Berlin, recommends the baths with mustard in neuroretinitis in anæmic subjects. Professor Adamuk, of Kazan, in his capital *Practical Treatise on Ophthalmic Diseases* (1881), administers daily podal hot baths, with mustard or nitric acid, in cases of high myopia of progressive character, and so on. In short, a belief in the strong revulsive properties of the baths under consideration is rooted pretty firmly and extensively in the professional mind. To verify this view, Drs. Katzauroff and Orloff examined the action of foot-baths in twelve subjects with normal eyes (again in feldshers) and in three patients with posterior staphyloma, myopic conus, &c. In the former group, a simple hot water bath, at 35° R., and of fifteen minutes' duration, was used. In the latter group there was added to hot water either potassa with mustard powder (one pound of each), or a mixture of strong hydrochloric and nitric acids (two ounces of each). The results obtained by the author were very remarkable and important in a practical sense. In none of the cases did the podal bath show the slightest derivative action; there was never found anything like paleness of the pupil, or collapse of the retinal arteries, or decrease of the intra-ocular tension. On the contrary, in an overwhelming majority of the cases there were present most distinct signs of increased congestion in the eye, such as reddening of the discs (14 cases), dilatation of the vessels (11), and rise of the tension (12), which phenomena were accompanied by an increased frequency of the pulse and a rise of the arterial tension (in 13 cases). All the changes remained still visible for ten to twenty minutes after the bath. In other words, podal hot baths do not belong at all to the means for diminishing the amount of blood in the eye; on the contrary, its use in posterior staphyloma, iritis, retinitis, and optic neuritis would, as a rule, lead to an increase of hyperæmia. Hence, according to the author, arterial hyperæmia of the posterior segment of the eye is a contra-indication to the use of the baths. The latter could be used only in cases of venous congestion in presence of collapse of the retinal arteries, where they would bring on resolution of stasis through stimulating the cardiac action [That podal hot baths are far from being derivative in a simple mechanical sense, that they do not simply 'allure the blood from the upper parts of the body to the feet,' may be seen, also, from Dr. Sholkovsky's researches, which will be found in the LONDON MEDICAL RECORD, Aug. 1882, p. 317.—*Rep.*] V. IDELSON, M.D.

ARTICLE 5012.

OERTEL ON THE TREATMENT OF OBESITY.

IT is now twenty years or more since the late Mr. Banting attracted no small notoriety for himself, and a lesser degree for his medical attendant, by publishing the somewhat heroic treatment by means of which he had succeeded in relieving himself of a considerable part of his superabundant fat. Some years later a would-be baronet was, without his consent, subjected to a course of treatment in one of Her Majesty's establishments, which proved, we believe, even more successful; and quite recently a celebrated statesman has shown his gratitude to his medical attendant by an appointment which has raised a storm in the leading university of his country, the practitioner having, though more gently, reduced the dimensions of his unwieldy patient, who, already the greatest man in his Fatherland, was seriously apprehensive of becoming the biggest.

Meanwhile, a member of our profession, Dr. Oertel, of Munich, having with success applied the teaching of Pettenkofer and Voit to the improvement of his own personal health, comfort, and appearance, has published his experience for the benefit of the world at large.

Jesting apart, we must say that Dr. Oertel's 'Terrain Kur' does seem to be based on sound physiological principles, though, as he urges, it should not be attempted except under strict medical supervision.

According to Dr. Oertel, the treatment of obesity consists in strengthening of the weakened muscular substance of the heart, and this is to be effected by a limitation of the amount of fluid in food and drink, and the graduated exercise of the muscles, especially of the heart.

A fat man, he says, weighing 78 kilogrammes, will probably have 12 kilogrammes of blood, will consume daily 2,000 grammes of food, and in all four kilogrammes of water, while the fluid excreted will fall short of that ingested by 100 grammes, which will be daily added to the body-weight, *i.e.* to the blood and fluids in the tissues. Dr. Oertel begins by reducing the total weight of food to 900 or 1,000 grammes, or about one-half, and the water to a still lower proportion.

A healthy man takes usually about 130 grammes of albumen, 84 of fat, and 404 of carbohydrates; Oertel gives his patients 169 of albumen, 43 of fat, and 114 of carbohydrates. This increase of the nitrogenous and decrease of the non-nitrogenous food-stuffs is nothing new; but the true explanation was first given by E. Voit, who proved that, though carbohydrates in excess tend to the production of fat, they act only as 'sparmittel,' or means of checking metabolism. Their proper function is to minister to the production of force, and the fat is formed from the albuminates, which break up into fat and urea, having previously combined with the elements of water, but a preponderance of albumen in the food favours a more rapid and complete metabolism of the albuminates into urea and uric acid, after they have raised to a maximum the albumen circulating in the fluids of the body.

At first the thirst felt is distressing, water being permitted only in small quantities, and after digestion has well begun; but it soon becomes unimportant, and the secretion of the kidneys is increased. Any œdema of the legs disappears, the limbs act more freely, and the heart's action is less feeble.

The next procedure, and that which gives the name to the 'cure,' consists in a course of exercise in walking, first on level ground, and then on gradually increasing gradients. For this purpose several establishments under medical direction have already been opened at Meran, Bozen, Arco, Baden-Baden, Abbazia, and other suitable sites on mountain-slopes, where the different stages are marked by large red figures painted on the rock. At first the patient is not allowed to speak, and bidden to walk slowly; should palpitation come on, he must inspire with one step and expire with the next, a proceeding which, like other 'respiratory gymnastics' of our German friends, is said to make the breathing easier. He may also stand still at every eight or ten steps, and, if necessary, support himself by leaning on a post or rock; but on no account may he sit down until his day's distance has been accomplished.

Such efforts, however judiciously prosecuted, are found to make great demands on the patient's strength, and call for a diet very different from that of the ordinary table d'hôte. Dr. Oertel recommends the following: for breakfast, a cup of tea or coffee, with 150 grammes of milk and 75 of bread; midday, 100 grammes of soup, 200 grammes of boiled or roast beef, veal, game, or poultry, without fat, fish dressed without oil or butter, salad and green vegetables to the patient's fancy, 25 grammes of bread, and farinaceous food or milk puddings not exceeding 100 grammes, a little fresh fruit, but no drink: in the afternoon, 150 grammes of tea or coffee, or at most one-sixth of a litre of water: in the evening, for supper, one or two light boiled eggs, 150 grammes of meat, 25 grammes of bread, a little cheese, salad, or fruit, and for a beverage one-sixth to one-seventh of a litre of wine, with, perhaps, one-eighth of a litre of water. Should so abrupt a change from the patient's ordinary habits prove too trying, some relaxation is granted, and those who suffer from obesity only are allowed a glass of beer at dinner.

Sphygmographic observations are made daily in all cases; and Dr. Oertel alleges that he has restored to the normal some of the most characteristic curves of weak hearts, while patients who at first could scarcely walk on flat ground without panting and palpitation, have been able to perform ascents of the mountains before leaving.

E. F. Willoughby, M.B.

M. Pasteur will receive for treatment all persons who have been bitten by a rabid dog.

Article 5013.

BUNGE ON THE ASSIMILATION OF IRON.

The success which has attended the treatment of chlorosis with preparations of iron, has led many physicians and physiologists to suppose that the organism possesses the power of synthetically forming hæmoglobin out of albumin and inorganic compounds of iron. Recent investigations have rendered it more probable, however, that the iron given by physicians to chlorotic patients for the purpose of building up and thus supplying the deficient hæmoglobin is not absorbed as such at all; and it has further even been shown by experiments on animals that, when iron salts are directly introduced into the blood, symptoms of poisoning set in, similar to those induced by arsenic.

It therefore becomes a question, how and in what form the necessary iron is absorbed and assimilated under normal conditions; and how the hæmoglobin, of which iron is an important constituent, is built up.

To elucidate this question, Professor Bunge (*Zeitschrift für Physiol. Chemie*, 1885) has experimented with milk and yolk of eggs. Milk must be the material from which the child's hæmoglobin is derived, as for a time it is its only nourishment; while the hæmoglobin formed in the chick during the period of incubation must, in like manner, come from the yolk alone. As the proportion of iron in milk is very small, the investigation can be pursued more readily with the yolk of egg.

If the yolk be extracted with absolute alcohol, a trace of iron passes over into the first extract, because water is still present; but no iron is thus removed subsequently. The iron, therefore, is all contained in the part of the yolk which is insoluble in alcohol and ether, and which forms about one-third of the substance of the dried yolk. This iron is not present as an inorganic salt, or associated with an organic acid, but as an organic combination; for no iron can be extracted from the dry residue by means of alcohol acidulated with hydrochloric acid, even when digested at boiling-point.

The organic iron combination may be thus isolated. The yolk, freed from the white of the egg, is extracted with ether, and the residue dissolved in very dilute hydrochloric acid ($\frac{1}{10}$ per cent.). An opalescent fluid is thus obtained, which is to be filtered and then digested with artificial gastric juice for some time in the cold, but afterwards at about 36° C., when a precipitate containing almost all the iron will be thrown down. It would therefore appear that the iron-holding precipitate has resulted from the splitting-up of a complex combination by the action of a ferment. This precipitate is washed with more of the dilute acid, and then with distilled water, boiled again with alcohol, and finally extracted with ether. It is now to be dissolved up in dilute ammonia, filtered, and the filtrate precipitated with alcohol. In this precipitate is contained the total iron. After repeated washings with acidulated alcohol and ether, a transparent, homogeneous, yellowish-tinted mass is left, which soon dries up, when it is to be powdered and dried, first *in vacuo* over sulphuric acid, and then in an air-bath at 110° C. From 200 yolks 34 grammes of this organic iron combination were obtained.

Now the iron, according to the author, is not present as a salt or albuminate of iron, but as an organic compound; for it was deposited from a hydrochloric acid solution, and, when it was digested with an alcohol containing 25 per cent. of hydrochloric acid, no trace of iron was extracted, nor was any removed by two days' digestion in a 1 per cent. solution of the acid. In addition, if a drop of sulphide of ammonium be added to a watery ammoniacal solution of the body, not the least coloration is obtained until a considerable time has elapsed. If on the other hand a similar addition of a drop of the sulphide be made to an ammoniacal solution of albumin, containing even a very minute quantity of an artificial iron albuminate, a green coloration is the immediate result.

The body, prepared as described, is very rich in phosphorus, and contains also traces of lime, magnesia, and chlorine; but whether it is really a chemical individual remains yet to be proved. Bunge has, however, given it the name of *hæmatogen*. It would further appear to be probably a decomposition-product of the very complicated molecule constituting the protoplasm of the cell-substance. Without doubt, too, it seems to furnish the material for the building up of hæmoglobin, the iron passing from a loosely to a closely bound condition in the molecule of the latter. The following table shows its relations to nuclein and hæmoglobin.

	Nuclein.	Hæmatogen.	Hæmoglobin.
Carbon......	40·81	42·11	54·26
Hydrogen ..	5·38	6·08	7·10
Nitrogen	15·98	14·73	10·21
Sulphur	0·38	0·55	0·54
Phosphorus..	6·19	5·19	(0·77 P_2O_5)
Iron........	—	0·29	0·43
Oxygen	31·26	31·05	20·69

In milk, the iron is similarly combined, and the same holds good with cereals and legumins, for here inorganic combinations of iron are present only in scarcely recognisable traces. Bunge even goes so far as to state that 'our food contains no inorganic iron combinations, the iron present being in the form of complex organic compounds, which are built up by the vital activity of the plant, and that in these forms the iron is absorbed and assimilated, and from them the hæmoglobin originates.'

The question now submits itself, how this view can be brought into harmony with the fact of the increased construction of hæmoglobin which occurs in chlorotic patients under the administration of preparations of iron; for that this building up does really occur, there can be no reasonable doubt. Bunge, nevertheless, affirms that none of the inorganic iron thus administered is reabsorbed for the formation of hæmoglobin, but that the iron used up really comes from the organic iron combinations in the food.

A solution of this apparent contradiction is to be found in the assumption that, in some manner or other, the inorganic iron salts taken as such protect the organic iron combinations of the food from being decomposed in the intestine. Numerous analogies can be educed in support of this assumption; and in complete harmony with it is the undoubted fact that iron preparations are only valuable in chlorosis when given in doses much too great to serve for the supply of the very small proportion of iron required by the organism for the building up of hæmoglobin. This view also harmonises best with the further fact that the derangements of digestion, such as the catarrhal state of the alimentary tract constant in chlorosis, induces processes of fermentation and decomposition therein, and that under their influence it is far from unlikely that such an unstable body as 'hæmatogen' may be decomposed and its iron separated, absorption of undecomposed hæmatogen being only possible in the alkaline chyle low down in the intestine. Accordingly, a great loss would occur before it arrived there. It is, besides, very probable that this decomposition is effected under the agency of alkaline sulphites developed in the intestine, as the result of such fermentations as the butyric, which readily occur on account of the failure in the secretion of the antiseptic hydrochloric acid in the stomach. Nascent hydrogen is generated in consequence, and the sulphates are reduced to sulphites, bodies which exercise a very destructive action on the hæmatogen. But when the inorganic iron salts are present, the sulphites enter into combination with them, and thus the organic iron compounds are saved from destruction.

Agreeing well also with this assumption, are Zander's recent statements that chlorosis can be more effectively and successfully treated by the administration of hydrochloric acid (one to two tablespoonfuls of a 1 to 2 per cent. solution after food), this acid being the normal antiseptic, than by the use of iron itself.

Through this hypothesis it is also possible, in addition, to explain how it is that only in chlorosis are the unabsorbed iron preparations of any avail, and not in other forms of anæmia, in which the cause of the disturbed and perverted blood-formation is situated not in, but outside, the alimentary canal.

T. CRANSTOUN CHARLES, M.D.

ARTICLE 5014.

FRASER ON THE ACTION AND USES OF DIGITALIS AND ITS SUBSTITUTES, WITH SPECIAL REFERENCE TO STROPHANTHUS.

IN the *Brit. Med. Jour.*, Nov. 1885, p. 904, Dr. Thomas Fraser gives a valuable paper, read at the annual meeting of the British Medical Association, on the action and uses of digitalis. The author's remarks not only refer to digitalis, but to various other substances which are included in the digitalis group. The action of these substances is due to certain chemical constituents; the majority not being alkaloids, but substances destitute of nitrogen and termed glucosides. In this digitalis group are included convallamarin and helleborin (which are freely soluble in water), digitalin, antiarin, thevetin, euonymin, adonidin, and oleanderin (which are only slightly soluble in water).

All these substances increase the strength of the heart's contractions, all having a powerful and direct action upon its muscular fibres, and not only upon the heart, but also on striped muscle, wherever it occurs. They are therefore muscle-poisons, when given in sufficient quantity. The action which they produce upon the circulation is followed by various secondary effects. The first of these is an increase in blood-tension. The second is the production of diuresis. A third action is a reduction in temperature; this is occasionally decidedly pronounced, but the members of this group must be placed low down in the list of antipyretics.

The author then proceeds to consider the properties and action of strophanthus (hispidus?), a plant used in Africa as an arrow-poison. It belongs to the natural order of the *Apocynaceæ*. The seeds are very active, and, when coarsely ground and formed into a paste, they constitute a strong poison. From the seeds Dr. Fraser has separated a crystalline body which he calls strophanthin; it is not precipitated by the ordinary reagents for alkaloids; it does not contain nitrogen; when heated with dilute sulphuric acid, it yields glucose, and a body insoluble in water, but very soluble in rectified spirit; this body is termed strophanthidin. The pharmacological action of strophanthus appears to be a very simple one. It is a muscle-poison. It increases the contractile power of all striped muscles, and renders their contractions more complete and prolonged. It, however, acts on the heart more distinctly and powerfully than on other striped muscles, and it can be administered in doses which produce a distinct effect upon the heart without affecting any other muscles. It increases the systole of the heart, and slows its contractions by small doses. In large doses, the heart is paralysed in a condition of rigid systolic contraction. The author records the results of several cases in which he has administered this drug with marked success, and gives some very interesting pulse-tracings and tables, showing the action of small doses on the secretion of urine. (In 1872 Corville described inoea, one of the active principles of strophanthus, as more subtile in its action than digitaline; *vide Medical Digest*, sect. 393 : 1.)—*Rep.*

RICHARD NEALE, M.D.

ARTICLE 5015.

KOBERT ON GUACHAMACA.

Der Fortschritt (Dec. 5, 1885, No. 23) copies from the *Deutsche Allgemeine Apotheker-Zeitung*, and from the *Pharmaceutische Zeitung*, an original paper by Dr. Kobert of Strasburg. The author writes: The guachamaca plant is considered as highly poisonous at Venezuela. The word 'Guachamaca' was first mentioned in Colonel A. Codazzi's famous geographical work on Venezuela, in which, however, he erroneously identifies the plant with *Ryanea coccinea*.[*] The first important communication on guachamaca was made in 1862 by Ramon Paéz, in his *Scenes of South-American Life*, in which the author distinctly states that he never saw the plant, but that many a terrible tale of its poisonous properties had been reported to him. For example, people who had partaken of meat roasted on spits of guachamaca wood, died. Birds which swallowed small fish painted with the juice of this plant, instantly dropped dead. A jealous woman poisoned her husband's wine with a few drops of the juice, by which not only he, but also eleven people who accidentally shared it, were killed.

R. de Grosourdy, in his *Medico criollo botanico*, 1864, correctly describes this plant as one of the natural order of the Apocyneæ, calling it Guachamaca toxifera, although he never saw the fruit, and had only very imperfect flowers for examination.

In 1869 the well-known pharmaceutical botanist, Ernst, at Caracas received a branch with leaves and two small rootlets of the plant, which he submitted to A. Frydensberg for physiological examination, who found the root harmless but the branches containing a rapidly fatal poison. Sir Joseph Hooker, from Ernst's description and his report of the physiological properties of the guachamaca plant, declared it to be a *Prestonia*.[*] Wood, branches, leaves, blossoms, and fruit of the guachamaca plant were shown in the exhibition of the centenary festival of the Sociedad Patriotica de San Fernando di Apure in 1883, from which Ernst perfected his description in 1884. The structure of the plant, however, particularly that of the ripe fruit, proving that this plant is not a Prestonia but a Malonetia, specimens were forwarded to Sir Joseph Hooker, who now definitely identified it as *Malonetia nitida* (Spruce).

The above-mentioned Frydensberg, on further examination of a larger quantity of the plant in 1882, found by experiments that the aqueous extract of the bark paralyses the movements of animals, whilst sensibility remains unimpaired.

The late Charles Sachs, when travelling in 1876 in Venezuela on a scientific mission by the Academy of Sciences of Berlin,[†] collected a large quantity of the plant, and discovered in it a violent poison, acting like curare. After his death, J. Schiffer (1883), continuing Sachs's investigations, succeeded in isolating, although yet incompletely, a new alkaloid, which possesses all the properties of curare—*i.e.* it paralyses the peripheric termination of the motory nerves, but has no effect on the sensitive nerves and on the muscles. He, however, emphatically points out that this new alkaloid, guachamanine, is not identical with curare, although very similar in action.

Dr. Kobert is of opinion that both poisons will finally prove identical, and that hereby the still obscure question as to the real origin of curare may be somewhat elucidated. It is known that diverse plants, among which those examined by Planchon, are considered to be the genuine source of curare, and that the various sorts of this poison have physiologically very different effects. He recommends as the best curare that supplied by Messrs. Thomas Christy & Co. (155 Fenchurch Street, E.C.), which comes from the Orinoco and Rio Negro, where the Malonetia nitida is not very rare. He states in support of his opinion on the identity of the curare and the guachamanine, that both differ from all other similar alkaloids by their perfect insolubility in absolute alcohol. Both are easily isolated from their tannin-precipitates, and both form characteristic precipitates when treated with phosphate of tungsten. Guachamanine can be employed instead of curarine for all physiological and pharmaceutical experiments, and may, according to Schiffer's trials, prove a more valuable remedy in the treatment of tetanus, rabies, and psychical over-excitement than curarine, by which, besides its being but very rarely pure, only inconstant and variable results have been obtained according to Lehmann's latest experiments in 1884.

FERD. ADALB. JUNKER, M.D.

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[*] *Ryanea* (De Candolle), of the natural order Flacourtiaceæ or Bixiads.

[*] *Prestonia* (R. Brown), of the natural order Apocynaceæ.

[†] Chs. Sachs, first assistant to Prof. Helmholtz, and lecturer (Privat Docent) at the Physiological Institution of Berlin, went to Ciudad de Bolivar for the special study of the electric organs of the Gymnotus electricus (Cuvier), which is found in the lagunes in the vicinity of this town, and published an exhaustive work on this subject, an epitome of which he incorporated into his scientific book on his travels in Venezuela, entitled *In den Llanos*.

ARTICLE 5016.

KISLITCHENKOFF ON THE COMPARATIVE ACTION OF THE LEAVES AND FLOWERS OF MAY-LILIES.

As is known, Professor Germain Sée, of Paris, came to the conclusion that the leaves of convallaria possessed a more powerful therapeutic action than the flowers of the plant. If true, his statement might be hailed with satisfaction by all practitioners as well as by hospital administrations, since the green parts of may-lilies are a cheaper article, and their admixture with the flowers would considerably reduce the price of the convallaria preparations, which are as yet valuable in more than one sense. To verify Professor G. Sée's statements, Dr. T. T. Kislitchenkoff (*Russkaia Meditsina*, Nos. 7, 8, and 9, 1885) undertook a series of comparative clinical observations, working at the suggestion and under the guidance of Professor V. G. Lashkevitch, of Kharkov. The leaves were given in an infusion made of one, two, or three drachms to six ounces of water, with half an ounce of syrup, a tablespoonful every third hour; the flowers were administered also in an infusion of one or two drachms to six ounces of water with syrup. The action of these preparations was studied in cases of disturbed compensation in patients with mitral stenosis and regurgitation, and in cases of pleuritic exudation, &c. In some of the cases at first the leaves, then the flowers, of convallaria, and lastly digitalis, were successively used. Infusion of the flowers was tried also in a case of Graves's disease, where the drug brought relief to the agonising asthmatic paroxysms, but did not reduce the increased frequency of the pulse.

From his observations, Dr. Kislitchenkoff draws the following deductions. 1. In small doses (that is, on the use of the infusion of one drachm to six ounces), leaves of may-lilies reduce the frequency and augment the volume of the pulse, and at the same time slightly increase the quantity of urine. 2. In large doses (an infusion of three drachms to six ounces) they produce a considerable increase in the daily amount of urine (*e.g.* from 870 cubic centimètres before the treatment to 3,250 cubic centimètres on the fourth day of the experimentation). 3. The retardation of the cardiac action does not seem to go at an equal pace with the increase in the secretion of urine. 4. The leaves of may-lilies, like the flowers, seem to have no cumulative action on the heart. 5. Cardiac arhythmia may be only somewhat relieved, but not removed, by small and middle doses of convallaria leaves. [In severe cases of disturbed compensation with considerable arhythmia, the author was not able to remove the latter even by the flowers of may-lilies. This is one of the few points in which Dr. Kislitchenkoff differs from Dr. N. P. Bogoiavlensky's views, as stated in his contribution to the pharmacology of may-lilies; *see* his *St. Petersburg Inaugural Dissertation*, 1881, and Botkin's *Arkhiv Klinikï Vnutrennikh Bolezney*, vol. vii., part i., pp. 1–101.] 6. The leaves of may-lilies are better borne by the gastro-intestinal tract than the flowers. 7. A re-established cardiac compensation is kept up by digitalis better and longer than by the flowers or leaves of may-lilies. 8. In regard to the energy of the therapeutic action on the heart, the first place is occupied by the leaves of digitalis; the next, by the flowers of convallaria; and the last, by the leaves of the latter.

V. IDELSON, M.D.

ARTICLE 5017.

SCHULTZE ON PALPATION OF THE PELVIC ORGANS.

DR. B. S. SCHULTZE, of Jena, has recently published (*Centralbl. für Gynäk.*, Oct. 24), an original communication on bimanual palpation of the pelvic viscera. He had already noted ('Ueber Palpation der Becken,' *Jen. Zeitschr. für Med. und Naturw.*, 1870, v., p. 113) that the contracting and relaxing psoas muscle, along the brim of the pelvis, was an excellent guide to the fingers engaged in detecting the position of the ovary in the bimanual method. External pressure along the same part of this muscle will often, in cases of chronic oöphoritis, or complicated parametritis, cause severe pain, especially when the hand passes over the ovarian vessels and nerves as they cross over the pelvic brim. [*See* reporter's note below, with regard to pressure on the obturator nerve.] When the psoas is kept in a state of clonic spasm, through apprehension of pain or through faulty position of the lower extremities, it may readily be taken for a swelling, the result of pelvic inflammation. As long as the psoas remains relaxed it cannot readily be distinguished by the hand placed upon the iliac fossa, but the pelvic brim can be felt through it. When, however, the patient bends her thigh, the brim cannot be felt through the contracting muscle, which becomes very evident to the touch, and is distinctly tender.

Dr. Schultze finds that two muscles are to be detected on careful vaginal palpation, and to be taken into account as valuable guides to other structures. These are the obturator internus and the pyriformis. [The sphincter vaginæ and levator ani are easy to detect. The anterior part of the latter, when in active contraction, is often mistaken for the former, which lies below it, separated sometimes by a distinct groove. The tendinous arch, whence part of the levator ani takes its origin, can be felt under the lateral part of the vagina; and, by passing the finger forwards towards the anterior bony origin of the muscle, behind the body of the os pubis, the obturator gland can be detected if it be enlarged or inflamed, as in some cases of pelvic cellulitis and gonorrhœa. Vaginismus is very frequently, we find, caused by painful contraction of the levatores ani in cases of fissure of the anus or inflamed hæmorrhoids.—*Rep.*] The obturator internus, Dr. Schultze states, is a muscle generally well developed, and its movements can be felt through the vaginal walls if the patient rotate the corresponding leg outwards. Its contraction becomes particularly evident during extension and adduction of the thigh, when not only its origin around the obturator foramen can be defined, but also the portion lying further back towards the sciatic notch. Pressure on the contracting muscle seldom causes pain, but pressure on the obturator nerve produces sharp crampy pains, radiating to the thigh along the course of the nerve. [This, if misunderstood, may be taken to be symptomatic of some acute inflammatory process in the pelvic cavity. A thorough exploration of the vagina with the finger, in a case of suspected uterine disease, is very likely to involve pressure on the nerve, and this may become a source of fallacy. Pressure on the ovarian plexus must also cause pain even in health, and thus the tenderness is not necessarily a proof (*vide supra*) of chronic oöphoritis.—*Rep.*]

The pyriformis is difficult to detect by vaginal palpation in subjects where the vagina is long, and the pelvis deep. It can easily be touched when the pelvis is shallow and the vagina broad, or in women of diminutive proportions. When the uterus is high up, as in advanced pregnancy, the finger can easily reach the upper border of the muscle. The pyriformis is, according to the evidence of palpation, very irregularly developed in different patients, and it is not so evidently set in action as the obturator, during active rotation outwards of the lower extremity. On the other hand, in many cases it remains in continual contraction, especially when the patient lies in an uncomfortable position, or is in a state of alarm. Pressure on the contracting pyriformis is often intensely painful, possibly ('vielleicht,' *evidently*, might be said with full confidence —*Rep.*) through transmission of the pressure to the sacral plexus. Through these peculiarities the pyriformis may become a prominent source of fallacy. Dr. Schultze, a few years ago, examined a very corpulent patient suffering from chronic metritis and parametritis. He took the two contracted pyriformes for the ovaries fixed to the back of the pelvis.

When both the pyriformes and the obturatores interni are set in action, the bulging of the obturators is most prominent a little behind the middle point of the foramen ovale. As each obturator bulges but little, there is not much chance of its being taken for a tumour or a collection of inflammatory deposit. The most projecting part of the pyriformis in full contraction is much more evident to the touch; it stands out three-quarters of an inch or more from the anterior surface of the sacrum. The inner borders of the two pyriformes in full contraction lie over an inch apart, so that two fingers can be pushed between them in vaginal palpation. The separate bands of fibres can be detected as they arise from the sacrum between the sacral nerves, provided that the muscle be set in action whilst the finger presses in the right direction. If the patient, lying in an easy attitude, have rotated the lower extremity outwards without setting the pyriformes in action, she should be told to hold the thigh stiff. This will set all the femoral muscles in action, and the pyriformes may then be distinctly felt. This will be sufficient to distinguish the muscles in question from a morbid growth or deposit.

ALBAN DORAN.

ARTICLE 5018.

LIEBREICH ON CHOLESTERIN FATS AND ON LANOLINE.

Der Fortschritt (Nov. 1885, No. 22) reports a lecture on the above-named subject, delivered by Professor Liebreich before the Medical Society of Berlin on Oct. 28.

Saponification is the characteristic property of all kinds of animal and vegetable fats and oils without exception, a process by which the separation of the glycerine-ether of the fatty acid into glycerine and the respective fatty acids is brought about. Besides the genuine glycosides, certain animal substances, viz., spermaceti, wax, &c., have long been known; which, although separating into different compounds, behave respecting saponification in a similar manner to the genuine fats. Thus spermaceti, although principally derived from the sperm whale (Physeter macrocephalus, likewise from the Balæna mysticetus), is also found in the coccygeal gland of the goose. Also in the human body compounds of fatty character, *e.g.* protagon and lecithine, have been discovered. To this class, viz., to substances possessing the properties of fats in the physico-medical sense, without being compounds of fatty acids and glycerine-ether, belongs likewise wool-fat. It is obtained now in great quantities from the wool (of sheep) by a peculiar process of washing before its further preparation. Wool-fat is, according to Dr. Hartmann's analysis in 1868, an ethereal compound of certain fatty acids with cholesterin.

The question arose, whether similar cholesterin fats are not more generally found in the animal kingdom, and what is the office of this fat in the organism. Bearing on the first question, human hair, horny tissue of various kinds—*e.g.* feathers of numerous birds, bristles of swine and of hedgehogs —were extracted with chloroform, and examined for cholesterin by means of Liebermann's test. A small quantity of the questionable fat is dissolved in acetic anhydride, and a minute quantity of concentrated sulphuric acid added to the solution, which in the presence of cholesterin fat will assume a bright green colour. By this test, cholesterin fats were found in every kind of keratine tissues.

A further investigation concerned the cause of the presence of cholesterin fats in keratine tissue. The generally accepted view on the office of the coccygeal gland of birds, and of the sebaceous glands of the hair-follicles, is that they serve for greasing the feathers, and particularly the hair, in a similar way to the self-acting lubricator of engines. This explanation, however, is erroneous, the lecturer having proved that the coccygeal gland of the goose does not contain cholesterin fat. Moreover, on examination of the feathers of birds which do not possess coccygeal glands—*e.g.* parrots—in these also the presence of cholesterin fat was demonstrated. Finally, the hair of the sloth (Bradypus tridactylus), an animal entirely destitute of sebaceous glands, was examined, and cholesterin fat was likewise discovered in its keratine tissue. No cholesterin fat having been found in the subcutaneous cellular tissue of any of these animals, the supposition is admissible that the formation of cholesterin fats takes place in the keratine tissue itself.

Of all the cholesterin fats known, wool-fat alone can be obtained at present in sufficient quantities for practical purposes. Its use until lately has been excluded in medicine and pharmacy on account of its impurities, which, apparently, could not be removed. Quite recently, however, Messrs. Jaffé and Darmstaedter, of Charlottenburg, near Berlin, having succeeded in producing it of perfect purity, the above objection against its employment for medicinal purposes has been overcome.

The preparation brought into commerce under the name of lanoline (lanolinum) by this firm is an intimate compound of pure wool-fat with about 30 per cent. of water. It is of yellow-whitish colour, and of the consistency of stiff ointment.

The properties which recommend lanoline as particularly adapted for ointments are these. It readily incorporates water, upwards of 100 per cent. of its weight, and forms thereby a pliable substance of the consistency of an ointment. By mixing lanoline with larger proportions of water, to which a small quantity of soda has been added, a delicate milky emulsion is obtained of unlimited durability, which quality adapts it especially for cosmetic purposes.

Of greater importance, however, is the readiness with which lanoline is resorbed by the skin, which actually soaks up the ointment whilst it is rubbed into it. Lanoline thoroughly incorporating remedies, and introducing them into the tissue, it constitutes a superior material for ointments the absorption of which is aimed at, having besides the advantage of not becoming rancid.

Most successful trials have lately been made with lanoline ointments, among which especially the rapid absorption of mercury gave the greatest satisfaction.

This new material for ointments is prescribed under the name of 'lanoline.'

FERD. ADALB. JUNKER, M.D.

ARTICLE 5019.

HUEPPE ON THE PERMANENT FORM OF THE SO-CALLED COMMA-BACILLUS.

THE following is a translation of a paper contributed by Dr. Hueppe to the *Deutsche Med. Wochensch.*

Up to the present time it has been well known that, under certain conditions, the comma-bacteria may last a considerable time; but it was not decided whether this duration was caused by a special form (a kind of spores), or by the vegetative form of the comma, or by the quiescent form (Ruheform), long known. Conducting examinations in the damp chamber, in which necessary patience and sufficient practice will enable one to avoid any errors, I have found that, in the first instance, if the 'soil' or 'bed' (Nährboden) be exhausted, the vegetative form develops into a quiescent form, the screw-shaped bacillus developing into a thread, which varies very much in length, and has in general the appearance of a screw. But this screw-like shape again is influenced in individual cases by the quickness of formation, by the chemistry of the 'bed,' and also by mechanical conditions of the latter, to such an extent that we find broad and narrow, flexible and stiff screws.

Under a sufficiently high temperature (22° to 27° Cent. = 71°·6 to 80°·6 Fahr.) we find in the thread (sometimes even in the individual comma) a change of this kind. Within a distance equal about to the length of a comma, the comma is divided into two more strongly refracting globular cells, which do not appreciably exceed the diameter of the thread; and then a second or third comma makes its appearance.

In the cases observed by myself the thread was displaced by a swelling of the gelatinous coverings of the globules, so that the globular cells were gradually somewhat separated, so as to form eventually a small zoogloea of regular, globular, and strongly refracting cells.

These globular cells or members (I must particularly state) have nothing to do with any forms of degeneration, and just as little do they present any signs of being granular decay, as at one time I believed. I have observed these last named processes, and have established the fact that they are dead and incapable of germinating again. To prevent the possibility of any such mistake being made, I have taken every precaution by comparative examination and direct observation. And it must be borne in mind that I started with the supposition, that a permanent form did not exist. These globular immovable members do not multiply by subdivision, are not coccus-like therefore, but they may germinate again after a latent stage if there come a new supply of nutritive matter. In germinating, the globule extends with a diminution of refractory power into the shape of a bacillus; at first straight, then gradually curving into a comma, which soon multiplies by subdivision. (These observations were made directly on account of the many illusions which were constantly creeping in with the use of coloured preparations for the study of the formation of spores.) These globular cells are formed only when the nutritive matter is exhausted, chiefly after previous development of the quiescent form of the screw-like threads under sufficiently high temperature. They do not multiply in this form, but are capable of introducing fresh generation, and therefore represent a real process of fructification, and must be regarded as arthrospores. There is sufficient warrant from the standpoint of general morphology and biology to recognise in them a permanent form.

The medical faculty are generally accustomed to lay a rather exclusive stress on the first word in the expression 'permanent form,' and give less heed to the word 'form,' in regard of the duration of the endogenous spores of the earth, hay, and other bacilli. This view is authorised to a great extent from the standpoint of the practice of disinfection, but morphologically and biologically it appears one-sided and insufficient, in as far as the question of shape is just as important. Biologically, a permanent form is a protective arrangement (whether appearing as endogenous spores or arthrospores), so that the species may be preserved safely and for a longer period even under the most unfavourable conditions, to which it may be exposed with its spontaneous occurrence, and to which the vegetative and simple quiescent forms succumb. Without doubt this is accomplished by the arthrospores of the comma-bacilli, and I consider them as a form of fructification particularly adapted to conditions present in water and damp earth, in consequence of the gelatinous coverings and accumulation in zoogloea. But even in the one-sided view of the practice of disinfection they are a permanent form, since they are considerably more capable of resisting particularly desiccation than the vegetative comma form, and the quiescent form of screw-like threads. With regard to this last I may just notice, that, having particularly watched the thready condition, I agree with Koch, that after desiccation, lasting several hours, the comma and screw forms die away, and are incapable of germination, and that they cannot outlive desiccation of only a day's duration. On the other hand, after a similar treatment of from one to four weeks (that is so far the extent of my observations) we find the arthrospores capable of germination. Thus, directly compared, the difference between arthrospores on the one hand and vegetative comma forms and the quiescent form of the screw-like threads on the other, is decisive enough, quite independently of the equally important general biological and morphological criteria, to justify me in recognising in this form (regarded by me as arthrospores) also etiologically a permanent form though it may not possess the power of resistance in the same degree as the endogenous spores.

My opinion is thus finally this; that the comma-bacilli (specially in cholera Asiatica) do not only sometimes remain as such a very long time in a vital state, but that under certain conditions a special permanent form is developed which possesses still greater powers of resistance.

JOHN ELLIOTT.

ARTICLE 5020.

ROSENBACH ON THE INFLUENCE OF STARVATION ON THE NERVE-CENTRES.

DR. P. J. ROSENBACH, house-physician to Professor J. P. Mierzejewski's clinic, has studied (*Vestnik Klin. ee Sudeb. Psikhiatr.*, vol. i., part 2, and *St. Petersburg Inaugural Dissertation*, 1883) experimentally, in dogs and rabbits—1, the microscopic changes occurring in the central nervous system in animals starved to death; 2, the influence of starvation on the excitability of the brain; and 3, the clinical symptoms resulting from the action of starvation on the nervous system.

1. *Morbid Anatomy.*—*a. Spinal Cord.*—The changes wrought by starvation were very marked and constant, though they were almost exclusively limited to the nerve-cells, the cells of the anterior horns presenting the most intense alterations. The latter consisted in 'opaque swelling' of the protoplasm, wax-like degeneration with loss of the processes, granular or hyaline degeneration or disappearance of the nucleus, sieve-like vacuolisation, and complete disintegration of the cell with fatty degeneration of detritus. The longer the animal has lived under starvation, the greater are the alterations found, the lesser is the number of normal multipolar ganglionic elements met at an individual section. All other conditions being equal, the most intense changes are observed in the neighbourhood of the blood-vessels. [That is, the morbid process in starvation follows the general law of spreading of diffuse degenerative processes in the spinal cord, as established by Dr. James Ross, and as subsequently supported by N. Popoff, Tchij, &c.] The cells of the posterior horns undergo the degeneration in a far slighter degree than those of the anterior. The neuroglia and nerve-fibres show only some opacity and swelling. [Like Dr. Mankovsky (*see* the LONDON MEDICAL RECORD, Feb. 1884, p. 73), Dr. Rosenbach never saw anything like 'homogenous degeneration' of the interstitial tissue of the grey matter, as described by Dr. N. Popoff; neither did he see Popoff's 'pigment degeneration' of the ganglionic cells.] The vascular changes are the most marked in sections presenting the most intense degeneration of the nerve-cells, and consist in intravascular accumulation of red and white blood-corpuscles in capillaries and veins; in hæmorrhage *per diapedesin*; and, relatively rarely, in 'plasmatic' or 'colloid exudation' (Lockhart Clarke's 'granular' or 'fluid disintegration').

b. Brain.—In all parts of the cerebral cortex (in the psychomotor area, as well as in the occipital, frontal, and parietal lobes) there are present the same degenerative changes, but they are considerably less pronounced than in the spinal cord. The ganglionic elements in the optic thalami, corpora quadrigemina, &c., present only slight opaque swelling. The white substance everywhere is free from alterations. The circumvascular spaces show marked dilatation, but without any accumulation of leucocytes.

c. Cerebellum.—The degenerative process is localised in Purkinje's ganglia; shrinking of their protoplasm, vacuolisation, and disappearance of the nucleus, being the changes prevalent.

d. Intervertebral and Sympathetic Ganglia.—The same degenerative changes, except hæmorrhage and colloid metamorphosis, are found. The lesions of the nerve-cells in the intervertebral ganglia are so intense, as to create a distinct and characteristic macroscopic appearance. The connective tissue of the structures is somewhat rarefied. The sympathetic (cervical) ganglia present the same alterations, but in a slighter degree.

Discussing the changes above described, the author points out that the same lesions are found in myelitis of traumatic and idiopathic (Leyden, Erb, Hayem, Vulpian) as well as toxic origin [as proved by the following experimental researches carried out under the guidance of Professor J. P. Mierzejewski: Danillo's 'On the Morbid Anatomy of the Spinal Cord in Phosphorus Poisoning,' 1881; N. Popoff's 'On Acute Myelitis from Lead, Arsenic, and Mercury,' 1882 (*see* the LONDON MEDICAL RECORD, Dec. 1883, p. 515); and Tchij's 'On Alterations in the Spinal Cord in Poisoning by Morphia, Atropia, Nitrate of Silver, and Bromide of Potassium,' in the *Meditz. Pribav. k' Morsk. Sborn.*, May and June 1883.—*Rep.*] But, at the same time, there are present important distinctions between starvation on one side, and myelitis and poisoning on the other. In starvation, there is absence of all inflammatory phenomena, such as infiltration of the tissues by leucocytes, formation of 'granular cells,' thickening of the vascular coats, &c., which are always found in myelitis and poisoning. The degeneration and destruction in starvation are nothing but results of a defective nutrition, in consequence of arrested supply of nutritive material. The localisation of the degenerative process is determined by the nerve-cells possessing a comparatively weaker power of resisting any disturbances of the general nutrition.

2. *Excitability of the Brain.*—Having carried out (conjointly with Professor V. M. Bekhtereff) a series of experiments on stimulation of the psychomotor centres in dogs, the author found that, to obtain the minimal motor effect, the strength of electric current must be greater than in the normal (non-starved) animal. In other words, the electrical excitability of the brain is lowered under the influence of starvation.

3. *Nervous Symptoms in Starvation.*—Rabbits did not present any nervous symptoms at all. As to dogs, there were observed some individual differences. Thus, 'stray' or 'street dogs' (or 'no man's dogs'), accustomed to vicissitudes of life and half-starving generally, in the beginning bear a complete hunger-diet good humouredly, and even preserve a cheerful disposition for a pretty long while. Meanwhile, the animals accustomed to good care and regular feeding at first manifest considerable restlessness, whine, and howl. But afterwards all starved animals become quieter and listless, lie motionless, and do not even touch any food put before them. Dr. Rosenbach did not see anything like delirium or hallucinations of inanition, except in one case, where the animal gnawed off a part of its paw in the last day of its life.

V. IDELSON, M.D.

WE understand that Messss. Maclachlan & Stewart are about to publish a collection of the songs and verses by members of the well known Medical Clubs in Edinburgh, many of which are familiar to the outside public as well as to the medical profession.

ARTICLE 5021.

KRASKE ON TUBERCULAR INFECTION OF WOUNDS.

IN a recent contribution to the *Centralbl. für Chirurg.*, 1885, No. 47, Professor Kraske, of Freiburg, reports two cases by which he has been led to believe that, under certain conditions, a fungous affection of wounds may occur in the absence of any pre-existent tubercular disease. It is well known, Kraske points out, that, after operations for the removal of tubercular disease, the resultant wounds or scars very often become fungous. This local relapse of tubercular disease is usually attributed to a failure in the previous operation to remove the whole of the diseased structures, so that the granulations of the wound, or the scar, may become infected by a remnant of the primary deposit. Such infection, it has been held, does not occur if the operation be performed on sound structures, as in amputation for tubercular caries, nor has any decided case previously been recorded of fungous infection of the wound from an operation performed for the removal of non-tubercular disease, or of like infection of an open surface due to injury, even though the subject in either case might be disposed to tuberculosis.

The first of the cases recorded here by Kraske is one of a lad, 11 years of age, who came under treatment for swelling, with fistulous openings, near the upper end of the right femur. The patient, though pale and emaciated, did not present any glandular swellings externally, and his internal organs were found to be quite healthy. The case, in Kraske's opinion, was one of simple osteo-myelitis and necrosis following an attack of fever, supposed to have been typhoid, which had occurred two years previously. The parents were quite healthy, but it was reported that a sister of the patient had been suffering from pulmonary phthisis, which afterwards proved fatal. An incision having been made through the soft parts over the diseased bone, a large cavity was opened, which was lined by granulations, but did not contain any sequestrum. The inner surface of the cavity was carefully scraped, and the seat of operation treated antiseptically. The patient was soon discharged as convalescent, but, after an interval of seven months, again came under treatment, and then presented an increased number of fistulous openings near the great trochanter, from which there was a discharge of serous fluid, and which led down to bare and rough bone. The fistulous canals having been laid open, much carious bone and unhealthy granulation-tissue were exposed. Caseous deposit was found both in the granulation-tissue and in the spongy substance of the bone; and the tuberculous nature of the process was proved by the presence under the microscope, in both these structures, of miliary tubercle with giant-cells, and also of bacilli.

The subject of the second case was a lad, aged 10 years, who, about eight months after an injury of the left thigh-bone, followed by much fever and suppuration about the seat of injury, came under treatment for distortion and shortening of the injured limb, and osteo-myelitic (?) necrosis of the femur. There were two fistulæ, one on the outer, the other on the inner, surface of the thigh, each leading down to loose sequestra. The integument around the fistulous opening on the inner side had a livid tint, and was very thin and much undermined; and the channel, when slit up, was found to be lined for about an inch of its extent by fungous and caseated granulations, which revealed under the microscope the presence of the micrococci of tubercle. The walls and outer orifice of the other fistula were in a normal condition. The patient, though found to be free from visceral disease, was very pale, and gave a decided history of pulmonary tuberculosis in many members of his family.

The primary disease in each of these cases Kraske holds to have been acute infective osteo-myelitis. To suggestions that might be made of error in diagnosis, and of the possibility of the disease having been from the first tuberculous, it is answered, with regard to the former case, that the affection of the upper part of the femur had taken an acute course, and been early associated with very severe symptoms, both general and local; and that the local conditions, when the patient was first seen by the author, were very characteristic of simple necrosis from osteo-myelitis, and afforded no indications of tuberculosis. The history of the second case was one of simple necrosis from acute traumatic osteo-myelitis of the shaft of the femur. The appearance of the fistula on the inner side, with the undermining of the skin, and the caseous and swollen granulations, might have suggested that this was a very rare and, indeed, previously unheard-of instance of tuberculosis of the diaphysis of a long bone, commencing with high fever and suppuration, and resulting in the formation of sequestra and spontaneous fracture of the affected bone. The granulations lining one sinus and enclosing the sequestra were quite healthy, and the sequestra themselves were composed of hard and unaltered bone-tissue. No tubercle-bacilli could be found in these structures on the most careful examination, whilst in the spongy and caseous granulations of the sinus on the inner side of the thigh, these micro-organisms could be observed without difficulty. On consideration of all the clinical details of these cases, Kraske holds it as certain that in each the tuberculous wound-infection was established in tissues which had previously been quite unaffected by any tuberculous process.

With regard to the way in which the infection occurred in these cases, Kraske holds that the primary seat of the tuberculous disease in each instance was the outer open surface, and not the bone. This is indicated by the local conditions observed in the second case, in which only the more superficial part of one sinus was diseased. Inoculation of the tubercle-bacilli on an open surface, it is stated, is not only possible, but of frequent occurrence; a tuberculous subject being capable of infecting himself, and also some other and a previously non-tuberculous individual. In large wounds, however, such inoculation rarely takes place, as the intensity of the reactive and the reparative tissue-changes after severe lesion are unfavourable to the development of the tubercle-germs. In the first of Kraske's cases there is a history of very favourable conditions for the inoculation of the virus of tubercle from without. The lad was the constant companion of a sister who was dying from pulmonary phthisis; both patients were nursed by the mother, and the dressings applied to the openings in the thigh were kept in the room which they both occupied. In conclusion, it is suggested that, in subjects predisposed to tuberculous disease, the general or local changes in tissues and circulating fluids, excited by osteo-myelitic infection, may favour the development of the tubercle-virus in the resulting open surface.

W. JOHNSON SMITH.

ARTICLE 5022.

SOKOLOFF AND ULEZKO ON THE STRUCTURE OF THE PANCREAS.*

MR. VASILY SOKOLOFF, soliciting the degree of 'magister of veterinary sciences,' selected for his inaugural work the study of the minute structure of the pancreas during its rest and action (*St. Petersburg Inaugural Dissertation*, 1883, pp. 48; and the *Arkhiv Veterinarnykh Nauk*, Dec. 1883). The structure of the quiescent gland was examined in dogs, cats, rabbits, horses, cows, sheep, and pigs. To study the alterations taking place in the gland during its physiological action, he killed dogs, cats, and rabbits at certain periods (4, 5, 7, 10, 15, 20, 40 hours) after the ingestion of food or after a subcutaneous injection of pilocarpine. The specimens were hardened in chromic acid, spirit of wine, tincture of iodine, osmic acid, muriate of gold, and Müller's fluid, and then stained with hæmotoxylin or picrocarmine. The results of these investigations (carried out in Professor F. N. Zavarykin's laboratory) are summed up by the author as follows.

1. The changes in the structure of the pancreas during its action, show that the process which takes place in it is identical with that observed in other glands of similar anatomical structure and function (salivary, pepsine glands, &c.).

2. During its physiological rest, the secretory cells become granular and increase in their bulk ('as if swell'), their homogeneous zone being considerably diminished, or disappearing altogether.

3. When the pancreas steps into the physiological action, the cells in which the homogeneous zone has disappeared, or is present only in the shape of an extremely narrow marginal strip, undergo disintegration, while the remaining cells show a diminution of the granular, and an increase of the homogeneous zone.

4. At the same time, on the periphery of the alveolus there appear small homogeneous wedge-shaped cells, which are gradually lodged between the former elements, and which replace the secretory cells destroyed. [They are identical with Podvysotzky's 'cuneiform cells,' though viewed by Sokoloff in a different light. (*See* the LONDON MEDICAL RECORD, April 1884, p. 180.)—*Rep.*]

5. Simultaneously, there appear round corpuscles in the interstitial tissue of the gland.

6. These round cells (leucocytes), probably, serve as a source from which the homogeneous cells in the alveoli are originated.

7. Therefore, the destroyed secretory cells, to all probability, are replaced by new ones, which are developed from leucocytes wandering in the glandular interstitial tissue. So far Mr. Sokoloff.

In a preliminary note in the *Vratch*, No. 21, 1883, p. 323, Dr. Klavdia Ulezko opposes him from the beginning to the end of the matter, pointing to the results of her own investigations conducted in the laboratory, and under the guidance, of Professor M. D. Lavdovsky. Her statements may be given thus.

1. No destruction of the secretory cells ever takes place during the physiological action of the pancreas (as well as of the salivary glands, as proved by Professor Lavdovsky in opposition to Professor Heidenhain).

2. Hence, generally, there is no occasion to look about for any substitutes for the pancreatic secretory cells in relation to the regeneration of the latter; this would be the more superfluous, as the secretory cells are capable of proliferation themselves (as was first proved by Gaule).

3. No grounds whatever may be adduced in support of Sokoloff's views concerning the regeneration of the pancreatic cells from leucocytes. The active condition of the gland does not stand in any connection with migration of leucocytes. The latter—as far as the normal gland is concerned—are present only in too scanty numbers to be taken into any account. No transitory forms or links between leucocytes and the secretory cells are (or could possibly be) observed. Sokoloff's 'homogeneous cells' are, probably, best explained by some defective methods of examination.

4. Podvysotzky's 'cuneiform cells' have no relation whatever to leucocytes, since they are nothing but artificial products.

[Miss Ulezko's paper gave rise to rather sharp polemics between Mr. Sokoloff and Professor Lavdovsky (*see* the *Vratch*, No. 26, 1883, p. 412; No. 28, p. 442; No. 43, p. 684; and No. 45, p. 714); both of the parties ultimately remaining there where they had been previously.—*Rep.*]

V. IDELSON, M.D.

ARTICLE 5023.

DRAPER ON DEATH BY DROWNING.

DR. DRAPER, Assistant Professor of Legal Medicine in Harvard College, in a paper read before the Massachusetts Medico-Legal Society and reported in the *Boston Medical and Surgical Reporter*, postulates that the discovery of a dead body floating in the water or cast upon the shore presents to the medical examiner four problems for his solution; 1. The identification of the person dead; 2. The cause of the death; 3. The manner of the death; 4. The interval since death.

He discusses these topics briefly, in the light of his own observations during the past eight years. This experience has had as its material the personal inspection of 149 dead bodies rescued from the harbour, river, and other open waters abounding in Suffolk county, or cast upon the land after having been in the water, or found in tanks, privy-vaults, bath-tubs, and the like, after domestic submersion. Of this number, 124 were males, and 25 were females. All ages were represented, from the new-born infant, at one extreme, to the melancholy veteran of seventy-five at the other; but nearly all were under fifty years old. As would be expected, the influence of season showed itself in the fact, that a majority of the inspections occurred between May and November; the deaths predominating then, because accidents incidental to bathing and sailing are then most common, and because the bodies of persons perishing by submersion during the winter months appear subsequently for the first time when the ice has gone, and putrefaction brings them to view as the warmer days approach.

The first question which confronts the medical examiner when he is called to view a dead body recovered from the water is, 'Who is this person?

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* SOKOLOFF, VASILY.—On the Pancreas in the Various Phases of its Action. (*St. Petersburg Inaugural Dissertation*, 1883, pp. 48, with 2 Figs.; and the *Arkhiv Veterinarnykh Nauk*, Dec. 1883, pp. 133-178). ULEZKO, KLAVDIA.—On the Structure of the Pancreas during its Physiological Rest and Action. (*Vratch*, 1883, No. 21, pp. 323-4.)

Occasionally it is a question of much difficulty and requires considerable attention. Like other floating material, a dead human body may be borne upon a stream or by the tide many miles from its point of departure, and identification may thus be rendered increasingly difficult by distance. In March 1879, a boy was accidentally drowned in a creek in Waltham; twenty-seven days later his body was found on the South shore of the Charles River in Boston, ten miles from the scene of the drowning. Again, time is an element of importance in facilitating identification. Putrefactive changes speedily destroy the facial characteristics, and render recognition by the features impossible. But, fortunately, these cases which have to be recorded as 'unknown' are very few. The friends of missing persons are on the alert to see all dead bodies which the newspapers announce to have been found, and generally the clothing and personal effects afford a ready means of identification. Of the one hundred and forty-nine dead bodies forming the basis of this paper, only twelve were buried unidentified, leaving out of the account the bodies of new-born infants thrown into the water after premature birth or still-birth.

Sometimes attention to seemingly trifling details in the description of dead bodies and their clothing is repaid by speedy and positive identification. For example, on one occasion, the dead body of a labouring man, accidentally drowned in the course of a drinking bout, was recovered after many days in a thoroughly decomposed condition. Into the published description of the clothing Dr. Draper inserted the small matter that one of the shoes was laced with an ordinary shoe-string, while the other was provided with a piece of white cotton twine as a lacing; this peculiarity attracted the notice of the dead man's relatives, and led to the prompt recognition of the body. In another instance, a woman's body was brought to the morgue; on her back was a square of belladonna plaster, marked on the outside with the letter and number of a hospital bed and ward; this therapeutic clue served readily to establish the identity. The value of clothing as a means of identification was illustrated, in a negative way, in a case of a man whose body was forced by the tide under one of the wharves which skirt the city's water front; the body was nude, and, though a full description of its characteristics was published, and a sufficient time and opportunity were allowed for its inspection, no one appeared who was able to state the name and home of the unfortunate bather.

But the really important question for study is the purely medico-legal problem—the *post mortem* diagnosis of death by drowning. When a dead body is found in the water, the presumption is that the water was the cause of the death, and that the person perished by submersion. To verify or refute that presumption by an inspection and necropsy of the body is, under some circumstances, a most responsible and delicate duty. The question is sufficiently easy and simple, if the death have been recent and the body present none of the changes due to putrefaction; it is difficult, and presently becomes impossible of solution, in proportion to the advance of cadaveric decomposition.

Upon a body twenty-four hours after death by drowning, the demonstration of fatal asphyxia by submersion is a satisfactory medico-legal study, with rare exceptions; twice twenty-four hours later, the most valuable and trustworthy signs may have wholly retreated before the skirmish-line of putrefaction. That these fortunately fresh bodies constitute a small fraction of the material offered to the medical examiner for his investigation, the experience of all readily attests. Commonly, he is confronted with the hideously inflated, horribly distorted, nauseously infected cadaver, whose stench fills our nostrils and our memories for many days; or he sees, with any other than the æsthetic sense, the remnant of mortality rescued from the sea, the skull bereft of its natural covering, the eyes long ago gone from their sockets, the nose and the lips likewise departed and exposing a grinning display of teeth, the hands, like the other accessible soft parts, appropriated by the fishes for nutritive purposes; but the clothing and every pocket and fold thereof alive with all manner of skipping and wriggling and slimy marine parasites, rendering a faithful search for the 'money and other valuables' mentioned in the law a critical test of the medical examiner's zeal. Such subjects, vulgarly called 'floaters,' may well lie under the presumption that they died in and by the water from which they were taken, unless an obvious external lesion, like a pistol-shot wound or a fracture of the skull, be observed upon the body and lead to another course of inquiry and to the demonstration of another cause of death.

What, then, asks Dr. Draper, are the *post mortem* appearances which the examiner may rely upon for a diagnosis of death by drowning? In the first place, what external indications are of value, assuming that the body under inspection is that of a person who, in drowning, came to the surface at least once before final submersion, that the interval since death is brief, and that the recovery from the water was but a little time before the examination?

The sign which he regards as of the first importance, superior to all others, is the presence of froth at the mouth and nostrils. When it is present in its typical development it affords, in his belief, sufficient evidence to establish by itself the cause of the death. It is to be distinguished from the coarser gaseous bubbles which putrefaction brings to view at the lips, and which the old women who 'lay out' corpses note with interest; it is fine, light, and delicate, like the foamy lather of the best shaving soap. Sometimes it has a pink tinge, and occasionally a distinctly marked red colour, from the blood which has become intimately mixed with it in the course of its formation in the air-passages. It is found after drowning in any kind of fluid and under all circumstances (with the possible exception of cases in which the person drowning sank immediately without once returning to the surface for air, although of this exception some excellent authorities express doubt). Dr. Draper has seen it very fully developed in the case of a child who was drowned in a privy-vault. It is a very evanescent sign, and may not be expected after an interval of four days after death in winter, and of sixty hours in summer. Its appearance externally is due to its escape and overflow from the trachea and bronchi, where its primary formation occurs.

The colour and condition of the skin are of interest. In the recently drowned body, promptly recovered from the water, the condition of the skin, so far as lividity is concerned, is not remarkable over regions situated below the clavicles; the face is either deeply injected so that it presents a mottled purplish colour, with marked reddening of the conjunctivæ and engorgement of the ears and lips, or there is a dull sodden lividity; or, not uncommonly, there is the same pallor which characterises the rest of the body. Whatever the hue may be at the outset, it does not persist, but a significant change presently occurs. After an interval varying from a day and a half to four days (or even later in winter), the face, without being swollen, as at a later stage when decomposition is fully in progress, assumes a uniform dull red or copper colour, not mottled or in streaks, but equally distributed. Ogston explains this change as arising from the action of the oxygen in the air or the water, but the precise nature of the process he does not make clear. A little later, but long before the rest of the body, protected by the wet clothing, shows any alteration, the face becomes swollen and distorted, the lips protrude, and the eyelids are distended, in consequence of the advance of decomposition.

Cutis anserina, though generally observed upon the bodies of the drowned which have come under Dr. Draper's inspection, has, in his belief, very little diagnostic value. Its presence indicates a vital reaction in the skin, but not necessarily caused by contact of cold water with the skin. Casper* ascribes its formation to mental shock rather than to the effect of cold on the body, and he states that he has observed it upon those drowned in the heat of summer, and frequently, also, upon those who have died otherwise than by drowning, though by violence, as by shooting, hanging, stabbing, falls, and the like.

The blanching and wrinkling of the skin of the hands and feet and knees, formerly set down as among the signs of death from drowning, are now recognised as simply the physical effect of water upon the cutaneous tissues, whether living or dead.

Dr. Draper has not observed that important sign of drowning—the presence of substances grasped in the hands. Where this evidence exists, it is unquestionably a very valuable aid to diagnosis, providing the matters found in the hands be identical with those growing or floating in the water, and provided, also, the grasp of the hands upon these substances is the grip of cadaveric spasm indicating a vital act. The same rule holds here as in other cases of instantaneous rigidity: the closure of the hand upon its contents must be more than a mere flexion of the fingers; it must be a true death-grip to give it value as a *post mortem* sign.

The situation of the tongue is insisted on by some authors as important, and the examiner is advised to note whether it is engaged and more or less protruded between the teeth, or is in its normal place. In nearly every instance in which Dr. Draper has recorded a note on this point, the tongue has been observed in its normal relation to the teeth; in a few cases its tip has been found engaged between the teeth, and sometimes it has been swollen and closely apposed to the palate. He has never seen it protruded between the lips.

The appearances which the internal examination reveal are as follows. Upon raising the sternum, after the primary longitudinal incision, the increased volume of the lungs at once arrests attention. The organs are fully expanded so as almost to conceal the pericardium. They do not retract when the sternum is lifted, but they bulge forward into, and, to some extent, through the exposed space. This appearance is described by Casper as 'truly thanatognomonic,' and he explains it as 'in part an actual hyperæmia in consequence of very violent inspiratory acts carried on at the momentary emergences of the head of the drowning person above the surface of the water, and partly (and chiefly), in consequence of the inhalation into the lungs of the fluid in which the drowning has occurred.' Dr. Ogston has attributed this condition to the presence of water or watery fluid in the pleural cavities; and the protrusion of the lungs is caused, in his opinion, by the buoyant organs floating above this fluid when the controlling pressure of the sternum is removed. This does not seem to Dr. Draper to be an adequate explanation, since in many cases in which he observed the appearance to a marked degree, the amount of fluid in the pleural cavities was small, wholly insufficient, indeed, to float the lungs.

To the touch, as well as to the sight, the lungs present characteristic indications. They feel like œdematous tissues, pitting on pressure. They show sometimes the oblique impress of the ribs.

Careful inspection discovers the air-vesicles to be fully distended at the surface of the organs, and quite extensive areas of ruptured cells are sometimes seen under the pleura, as in emphysema.

The external colour of the lungs is not uniform, according to Dr. Draper's observation. Sometimes the organs are of a pale grey colour, both anteriorly and posteriorly; more frequently, hypostatic reddening is seen, the anterior parts remaining pale. In other cases, where the subject is plethoric, the entire pulmonary surface has a red or purplish hue. Much, he assumes, depends on the individual habit, on the interval since death, and on the position of the body in the interval. He remembers one case which illustrates the influence of blood-supply. A woman committed suicide by drowning while in a condition of melancholia, induced by the progressive growth of uterine fibroids, which she regarded as incurable. They had caused repeated and profuse hæmorrhages, so that at the time of her death she was very anæmic. The lungs presented, on *post mortem* examination, a singularly pale appearance throughout; the amount of blood in the body being insufficient to give to those organs any marked reddening, either superficially or upon the cut surface.

In the majority of his cases Dr. Draper has observed punctate subpleural ecchymoses, generally few in number and situated in the lower part of the lungs, and most frequently in the fissures between the lobes. They vary in size, the largest scarcely exceeding the size of a millet-seed.

Upon section, the lungs almost invariably show clear indications of death by submersion. These indications include a more or less intense reddening of the pulmonary tissue; the abundant saturation of the lung with fluid which escapes, as in œdema, on the slightest pressure from the entire cut surface; and the presence of froth and fluid in the air-passages from the trachea onward to the smallest bronchioles. In a few instances, he has found sand or mud in the trachea and larger bronchial branches. When the body has been recovered early from the water he has regarded these evidences of the penetration of water and other foreign matters into the respiratory passages as valuable diagnostic indications; but the interpretation of these appearances as signs of vital acts, should, in his belief, be guarded, since it is known experimentally that water may penetrate the ultimate structure of the lungs when a dead body is left sufficiently long and in a favourable position in the fluid. But if, with the water, he has found in the air-passages, the fine, foamy froth previously described, he has not been left in doubt concerning the cause of the death, since it is impossible to explain the formation of this product in any other way than by the violent respiratory acts of the person submerged; it is a sufficient proof that the body, now dead, was alive when it entered the water.

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* *Handbook of Forensic Medicine* (Sydenham Society's Edition), vol. ii., p. 234.

The heart has almost constantly been found in a condition indicating death by asphyxia; its right cavities have been filled with blood, its left ventricle being generally contracted and empty. The condition of the heart in this respect was in harmony with the hyperæmia of the lungs usually present and due to the same cause.

The blood has always been found of a dark colour, and generally of fluid consistency. In rare instances, Dr. Draper has observed clots in the right ventricle, but they were small, ragged, and soft.

The appearances about the abdominal group of organs he believes to be of slight diagnostic importance. The vessels of the peritoneum and mesentery are generally found fully injected, and there is engorgement of the spleen, kidneys, and liver, consistent with the asphyxia, which was the predominant factor in the cause of the death.

The presence of water in the stomach has been deemed by some authors a sign of much value in the determination of death by drowning, indicating that the fluid was swallowed in the course of the submersion. When the stomach contains water or other fluid or material identical with that in which the body was found (a matter sometimes of difficulty to determine), it is clearly a very trustworthy evidence, since we know experimentally and upon good anatomical and physiological grounds that water does not penetrate to the stomach of the dead subject, and, hence, that its presence there is a proof of vital action. Thus, when salt water, or dock mud, or bits of seaweed are found in the stomach, a good confirmatory sign of death by drowning is recognised. But the examiner is not always fortunate in discovering this sign; in many of Dr. Draper's cases, the stomach has been found either empty or containing food with very little fluid. In one case of suicidal drowning, a pint and a half of quite clear water was noted; in another case, twenty fluid ounces of watery fluid, mixed with mud, betokened the act of swallowing in the course of drowning. Where drowning occurs in clear fresh water, it would require a very nice discrimination to set aside the possibility that the water contained in the stomach had not been voluntarily taken to satisfy thirst a short time before the submersion.

In about half of Dr. Draper's cases, he has observed a marked injection of the meningeal vessels and appearances indicative of hyperæmia of the brain; but he has not regarded this as among the more reliable guides to a *post mortem* diagnosis, since cerebral congestion may result from many conditions immediately antecedent to drowning, but wholly independent of that act.

In summarising the various anatomical proofs of death by submersion which his experience and study have taught him to regard as most trustworthy, Dr. Draper states them thus. They fall naturally into two groups; namely, those indicating the generic cause of death (asphyxia) and, secondly, those especially showing that the death was by submersion. Of the former class of signs, the distended right cavities of the heart, the engorged lungs, the subpleural punctate ecchymoses, the evidences of hyperæmia in the liver, spleen, and kidneys, and to some extent also in the brain and its meninges, the reddening of the tracheal and bronchial mucous membrane, the dark unoxygenated colour and the fluid condition of the blood, readily occur to mind as almost uniformly present. Of the second or specific group of proofs that the asphyxia was the result of submersion, the following are the more important: froth at the lips and nostrils and in the trachea and bronchi; water in the bronchi, either with or without mud and other foreign matters; extreme distension of the lungs; superficial pulmonary emphysema; water in the small bronchioles and in the vesicular structure, as shown on the free escape of the fluid from the cut surface of the lung; thin clear fluid in the pleural cavities; water, particularly muddy water, in the stomach. As confirmatory signs are mentioned *cutis anserina*; the presence of objects held firmly in the hands and clearly derived from the water in which the body was found; blanching of the skin of the palms and soles; marked lividity of the face, with injection of the conjunctivæ.

Close upon the determination of the cause of the death, follows the scarcely less important medico-legal question, its manner. Was the life destroyed with suicidal purpose, or by homicidal violence, or was it lost accidentally? It must be admitted that the solution of this problem is in great measure a police rather than a medical matter. The phenomena of drowning do not differ materially whether their subject falls into the water, or jumps in, or is pushed or thrown in; and the anatomical appearances, both internal and external, are not susceptible of differentiation from that point of view. The material circumstances of the death, upon which almost wholly a decision concerning its manner must rest, though falling outside a strictly limited medical examination, may nevertheless come to the medical examiner's knowledge through the statements of eye-witnesses; or they may be inferred with sufficient accuracy from the condition of the body when found. Thus, the discovery of a naked body in the water, in summer, leaves little doubt that accidental drowning occurred while the person was bathing; while suicide is reasonably to be inferred when the examiner's search through the clothing is rewarded with the discovery of stones or other heavy objects in the pockets, or when he finds, as in one of Dr. Draper's cases, a flat-iron tied to one of the ankles. Homicidal violence by drowning is a more difficult matter. It is true that this form of homicide is of the rarest possible occurrence, and that the chances that death in any given case was either by accident or suicide greatly preponderate; yet the examiner should not allow himself to be misled by the doctrine of chances, but he should be on the alert perpetually for evidences of crime. These evidences, so far as the anatomical appearances go, are to be found in the presence of lesions indicating resistance. But there is need of caution even here, as one or two illustrations may serve to show. In one case to which Dr. Draper was summoned, the body of a German brewer was found in a large tank in the basement of a brewery; entrance to this reservoir was possible only through a chute or shaft, about two feet square, leading from an upper storey. The body showed unequivocal indications of death by drowning; but in addition, there were contusions upon the face and scalp, not easily to be explained by the fall through the shaft. It would have been easy to entertain the theory that the man had become engaged in a quarrel with one of his fellow-workmen, and had been thrown down the shaft into the water when disabled by blows on his head. But investigation demonstrated that the ecchymoses about the head were the result of blows received two days before death in the course of an altercation in a beer-saloon, and letters were found which indicated that the mortification growing out of the punishment which he had received from his opponent was one of the incentives which led the man to drown himself. In another instance, the body of a man was found floating in Charles River. At the inspection, Dr. Draper found behind the ear a contused wound of the shape of the letter H, the longest part of the wound measuring an inch and three-quarters, and its deepest part penetrating to the skull. It was such a wound as a blow with a rough stone or some similar weapon could have made, and its appearance clearly indicated that it was received before death; the skull was not fractured. The other anatomical appearances were those of death by drowning, and the inference was reasonable that the man might have been assaulted, struck heavily on the head, and thrown into the water while incapable of resistance. For a month, the man's identity remained unknown; and thus the facts relating to his death were also hidden. But, at length, the woman with whom he had lodged identified his clothing, and stated that two days before his body was found he had come home late at night, very drunk, with his head wounded and bleeding, and his clothing stained with blood, appearances which were caused (according to his story) by his falling down some stone steps. It was learned that, in the course of his latest inebriety, he was discharged from his usual place of work, and the fair conclusion was that, being out of money and out of employment, he destroyed himself in the despondency resulting from his financial and alcoholic misery.

Thus the signs of violence are not to be hastily interpreted. Moreover, the additional caution is to be borne in mind that, under certain circumstances, wounds found upon the bodies of the drowned are the results of injuries received by striking upon jutting rocks or upon bridge-timbers, or were produced upon the dead body in the efforts to recover it from the water. On the other hand, it is not to be forgotten that the entire absence of marks of violence upon the body of a person drowned is not inconsistent with the fact, otherwise established, that the death was by homicide:—a man overcome suddenly by more than one assailant, and by garrotting made incapable of self-defence; a woman similarly overpowered by muffling her head in a shawl to stifle her cries; a child without any such preparation for a violent death—all these might easily be tossed into the water, and their dead bodies would reveal to the medical examiner the signs of death by drowning only.

Among the cases of accidental or suicidal drowning that have come under the notice of Dr. Draper one or two deserve a word on account of their peculiarities. A man, in low spirits as the result of intemperance, tried ineffectually to obtain a supply of laudanum one midnight under false pretences, and in the morning was found dead in his bath-tub, with only his underclothing on his body, and with his head immersed deeply in a pail of water in front of which he was kneeling. A child, two years old, was left alone in a room in which was a large butter-tub containing five inches of water; after five minutes' absence, the mother returned to find her child head downward in the tub and dead by drowning.

Of the one hundred and forty-nine cases which have supplied the basis of Dr. Draper's paper, ninety-two were cases of accidental drowning; and of these ninety-two, twenty-one were bathing casualties, chiefly among boys under fifteen years old. The sudden and furious tempest of July 16, 1879, occurring while many pleasure parties were sailing in the harbour, yielded thirteen of these victims of accidental drowning.

A common and natural question addressed to the medical examiner as he stands over a dead body just brought to land, is 'How long has this body been in the water?' Certain writers on legal medicine declare their ready ability to determine this problem by means of the phenomena of progressive putrefaction which the body presents. Dr. Draper says that he has studied this point with considerable care, and confesses that the practical fruits of his study are unsatisfactory. The question cannot be answered with any degree of precision, except within very narrow limits. In a case of death by drowning, the circumstances of which are wholly conjectural at the time of the inspection, one can say with sufficient confidence, this death occurred within twelve hours, or yesterday, or the day before yesterday; but Dr. Draper contends that one is using his guessing privileges unscrupulously when he tells the reporters, with an affectation of candour, that the drowning occurred a month ago, or six weeks ago, or ten days ago; he really does not know, and cannot know with the anatomical appearances as his only guide. He offers one or two instances in illustration. Among the victims of the gale above mentioned were three men, of nearly the same age and physical condition, and, so far as is known, exposed to identical *post mortem* influences; two of the bodies were recovered July 27, eleven days after the storm, and the third was brought ashore two days later; in all three of these the appearances were the same as Devergie describes as proper for dead bodies recovered three and a half months after submersion, the most striking feature being the entire loss of the soft parts from the skull and from the hands. In another instance a party of young men were sailing May 30, 1883, and two of their number, H. and B., aged 20 and 21, were drowned by the swamping of their yacht; the body of H. was recovered June 21, and that of his comrade came ashore June 22, or, respectively, twenty-two and twenty-three days after death. In the case of H., all the soft parts of the head and face were cleanly removed, and both hands were gone; while in the case of B., besides the loss of both hands, the head was missing and the cervical vertebræ were as clean as if they had been macerated and artificially articulated; the skin of the abdomen was adipocerous. These examples serve to teach caution; they recall the fact that the problem is not a simple one, and that, if the processes of putrefaction have begun their work upon the body under inspection, a considerable degree of reserve is requisite in its answer. These views are in harmony with Casper's observations touching the conditions 'of which, as yet, we know nothing,' which modify the advance of decomposition, and the case which he cites to demonstrate this is sufficiently convincing. 'On March 20, 1848,' he writes,* 'I examined the bodies of fourteen, almost all of the same age, 24 to 30 years, previously occupying the same social position, all lying together in the same part of our dead-house, who had all met the same death, having been shot on the barricades on March 18, and had all died at the same time. Here there certainly existed those identical conditions so necessary for instituting a comparison, and yet I can testify that in no one case did the signs of putrefaction resemble those of another.' With such an authority to teach moderation, Dr. Draper observes that it well becomes us to avoid dogmatic assertions about matters of uncertainty.

ARTICLE 5024.

CHITTENDEN AND SMITH ON THE DIASTATIC ACTION OF SALIVA, AS MODIFIED BY VARIOUS CONDITIONS, STUDIED QUANTITATIVELY.

FERMENT action plays such an important part in the chemical processes occurring in the animal body, that a precise knowledge of the conditions that are favourable or otherwise to its activity must necessarily be of great value from a physiological point of view. This paper, by Prof. R. H. Chittenden and H. E. Smith (*Trans. Conn. Acad.*, vol. vi., March 1885) forms a most valuable contribution to the subject.

The ultimate product of the diastatic action of ptyalin is dextrose, but, as recent experiments have shown, maltose is formed in much larger quantity. The reducing power of this latter body is 66, taking dextrose as 100; while the achroödextrins and other intermediate products have a very small reducing power. Therefore the reducing power of a digestive mixture must of necessity express the relative diastatic action of the ferment present; since increased action means an increased formation of reducing bodies, the final product possessing the greatest reducing capacity. But it should be remembered in connection with this, that diastase as well as ptyalin converts only a limited quantity of starch into sugar or reducing bodies; for, no matter how great the excess of ferment or the length of time the action is continued, the percentage of starch changed into sugar does not generally exceed 53 per cent.

The general method adopted was the following. In each experiment 100 cubic centimètres of the digestive mixture were taken; the amount of neutral starch present was 1 to 2 grammes, previously boiled in a definite amount of water; the temperature of digestion was 38° to 40° C. (100°·4 to 104° Fahr.); and the diastatic action was allowed to continue generally for thirty minutes, and then stopped at once by boiling the mixture. When cold, the mixture was diluted with distilled water to 200 cubic centimètres and filtered; 25 cubic centimètres of the filtrate were then precipitated with Fehling's solution, according to Allihn's method, the reduced copper filtered through asbestos in a small weighed glass tube and ignited directly in a current of hydrogen gas and weighed as metallic copper. By means of Allihn's tables of reduction equivalents the corresponding amount of sugar, calculated as dextrose, is readily obtained, and from this the percentage of starch converted into reducing bodies is easily computed.

The influence of free acid and of acid-proteid matter on the diastatic action of saliva has long been a very disputed subject, as it is naturally a point of considerable physiological importance. In experimenting upon the influence of acid proteid matter, Danilewsky's tropæolin 00 test was employed. A saturated solution of the tropæolin was prepared in methyl alcohol; and, when the test for free acid was to be made, drops of the alcoholic solution were allowed to evaporate on a porcelain plate at 40° C.; and then, while still at this temperature, a drop of the fluid to be tested was added, and allowed to dry. Free hydrochloric acid causes the dry residue to assume a violet colour. A drop of a mixture containing only 0·003 per cent. of the acid gives a distinctly recognisable violet colour.

The amount of proteid matter naturally present in saliva, and which is capable of combining with acids is apparently quite constant; 100 cubic centimètres of filtered neutralised saliva containing proteids capable of combining with 38·8 cubic centimètres of 0·1 per cent. hydrochloric acid.

Up to a certain percentage, the presence of acid-proteid matter in the saliva tends decidedly to stimulate its diastatic activity. A difference must further be made between the acidity due to acid-proteids and to free acids respectively, for, owing to the disregard of this distinction hitherto, many errors have been committed.

It has been found that saliva, with its proteid matter saturated with acid, has a greater diastatic power in a given time than saliva simply neutralised, provided the percentage of acid-saturated proteids be not too large. When the amount of acid present approximates to the strength of the acid of the gastric juice, a destructive action is exercised on the salivary ferment. It is plain, therefore, that when the fluids of the stomach acquire an acid reaction from free hydrochloric acid, ptyalin will soon be destroyed. Yet in the first stage of digestion, when there is no free acid, the conversion of starch into sugar can undoubtedly go on; and at this stage of the process the proteid matter present may both protect the ptyalin and stimulate its activity; but, as the acid-proteids increase in amount and come nearer and nearer to their saturation point, the diastatic action may possibly stop entirely, even before free acid makes its appearance. Without doubt, all salivary ptyalin is ultimately destroyed in the stomach.

The presence of proteid matter in small amount has, therefore, a direct stimulating effect on the diastatic action of neutral saliva; but, above a certain percentage, the retarding influence exerted is out of all proportion to its power of destruction, the ferment even being almost completely destroyed.

The most favourable condition for the diastatic action of ptyalin, under most circumstances, appears to be a neutral condition of the fluid with the presence of more or less proteid matter. But the addition of very small amounts of hydrochloric acid to *dilute* solutions of saliva, giving thereby a *small percentage* of acid proteids seems still further to increase diastatic action; under such conditions also, a minute trace of free acid appears to intensify it still more. T. CRANSTOUN CHARLES, M.D.

M. DUCLAUX has been appointed Professor of Biological Chemistry to the Paris Medical Faculty. This chair has been created in order that the students of the Science Faculty may profit by M. Duclaux's teachings.

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* *Handbook of Forensic Medicine* (Sydenham Society's Edition), vol. i., p. 32.

ARTICLE 5025.

TEALE ON SPASM OF THE SPHINCTER ANI, AND ITS TREATMENT BY FORCIBLE DILATATION.

IN the *Med. Times and Gazette*, November 1885, p. 729, Mr. Pridgin Teale publishes a clinical lecture on some affections of the anus and rectum.

The author commences with three statements. 1. If a patient complain of piles, the chances are three to one that it is not piles from which he is suffering. 2. In any complaint of 'piles,' though hæmorrhoids may be absent, there will be almost invariably an irritable or hypertrophied sphincter, which must be set at rest if the patient is to be cured. 3. During the last twenty years, the author has only once used the knife for the cure of fissure of the anus or of spasm of the sphincter ani. In every other instance, forcible dilatation was used.

Great stress is laid upon the fact that the sphincter ani is nearly always an important, and very frequently the leading, factor in rectal ailments. As the type of perverted sphincteric action, the author takes *fissure of the anus.* The fissure becomes irritable and painful, thus provoking spasm of the sphincter, which in time induces hypertrophy. The spasm also reacts upon the raw surface, and deprives it of the physiological rest needful for its recovery. The most successful plan of treating these cases is to forcibly dilate the sphincter with the fingers. In cases of habitual constipation due to a too powerful sphincter, the best results will follow dilatation performed in the same manner as in cases of fissure. Cases of *slight internal bleeding piles* are often cured by this treatment without the necessity of ligature.

In another class of cases, the author has found great value from dilatation. Whenever, in deeply extending fistula, free division into the rectum would involve a risk of permanent incontinence of the anus, by dilating the sphincter it is only necessary to partially slit up the fistulous sinus; the rectal end of the sinus generally heals up of itself, owing to the enforced quiescence of the sphincter. In the cases of infants suffering from obstinate constipation resulting from sores or cracks within or near the anus, there is often much good derived from moderate dilatation of the sphincter.

The author concludes this most interesting and valuable lecture with the following statements.

1. Spasm of the sphincter ani, as a cause of constipation, suffering, and ill health, is often overlooked, and patients are allowed to suffer for years who might be cured in five minutes.

2. Spasm of the sphincter can be arrested by forcible dilatation more satisfactorily, more certainly, more scientifically, and with greater safety, than by division by the knife.

3. In all operations on the rectum and anus, dilatation of the sphincter is an essential, almost an indispensable, element in the treatment.

RICHARD NEALE, M.D.

M. BAZY has modified Esmarch's bandage by substituting a large India-rubber band; constriction is exercised over a larger surface than with Esmarch's band, and with equal pressure. M. Bazy's modification is in this respect superior to that of M. Nicaise, which does not exercise sufficient pressure. M. Bazy's band is manufactured by M. Vergne, of Paris; it measures 85 centimètres in length and 71 centimètres in width.

ARTICLE 5026.

CHITTENDEN AND CUMMINS ON THE INFLUENCE OF BILE, BILE-SALTS, AND BILE-ACIDS ON AMYLOLYTIC AND PROTEOLYTIC ACTION.

THE influence of bile and biliary acids on the digestive processes of the intestinal canal has (*Amer. Chem. Jour.*, vol. viii., No. 1) long been considered an important one. The form in which the main constituents of the bile exist there, depends naturally upon the reaction of the intestinal contents; for, if this be acid, biliary acids must be present; if alkaline, salts of these acids. Recorded observations tend to show that usually the reaction is distinctly acid. Schmidt-Mulheim found that in dogs, fed on albuminous matter, the intestinal contents are invariably acid throughout the whole tract, although the mucous membrane sometimes possesses an alkaline reaction. In such cases, it is evident that the alkali of the bile must have combined with the acid of the chyme, which would be followed by the liberation of the bile-acids, and their partial precipitation in combination with the proteids of the chyme.

Uffelmann also found that the fæces of naturally nourished infants possess a weak acid reaction; but Nothnagel, as the result of 800 observations, states that human excrement in adults varies decidedly in its reactions, being generally alkaline, more rarely acid or neutral. One of the results of the action of the bile on the acid reacting chyme is a precipitation, generally supposed to consist of a mixture of syntonin, peptone, and bile-acids; but recent experiments of Maly and Emich tend to show that only the non-peptonised albuminous bodies are thus precipitated, the peptones remaining in solution. Maly and Emich have further found that 0·2 per cent. of taurocholic acid hinders the digestive action of pepsin-hydrochloric acid, while 1·0 per cent. of glycocholic acid is without influence; also that 0·1 per cent. of either biliary acid stops the amylolytic action of the pancreas ferment, and that 0·2 per cent. of taurocholic acid or 1 per cent. of glycocholic acid will completely stop the amylolytic action of the salivary ferment.

The authors of the present paper find that a mixture of sodic glycocholate or taurocholate, as they exist in crystallised ox-bile, exerts no appreciable retarding influence on amylolytic action until present to the extent of 0·35 per cent.; smaller percentages, on the contrary, tending to increase the ferment action. The taurocholic acid has a very decided retarding action, while the same percentage of glycocholic acid is entirely without effect. So far as bile itself is concerned, the presence of a small percentage (2) appears to cause increased amylolytic action; larger percentages (5 to 20) having little or no effect. Bile, however, possesses to a slight extent diastatic action (Wittich, Hofmann, &c.). The authors have proved that there is great variability in the diastatic power in the bile of herbivorous animals, and they have even noted the presence of sugar in small amount. This last fact has also been observed by Naunyn.

While, therefore, the bile-acids and salts by themselves retard very decidedly the amylolytic action of ptyalin, it would appear that the retarding influence may be, in part at least, counteracted by the substances naturally present in the bile itself.

It has long been known that bile exerts a retarding action on peptic digestion, the presence of 20 per cent. of it stopping its action almost completely, the reflux of but a small amount into the stomach being productive of diminished proteolytic action. The presence of the smallest percentage of taurocholic acid produces a distinct retarding effect, and it acts still more powerfully in the form of the sodium salt. Glycocholic acid, on the contrary, is entirely without influence on the action of pepsin.

In studying the proteolytic action of trypsin in neutral, alkaline, and acid solutions, it was found that, when sodic carbonate was present in the proportion of 0·5 per cent., the action of the ferment was greatly favoured, but above that point proportionally retarded.

Free acids, even when present in small percentages, completely stopped the proteolytic action of trypsin. A sufficient amount of proteid matter just saturated with hydrochloric acid, no free acid being present, will also almost completely stop the action of trypsin. But proteid matter only partially saturated with acid exerts a much smaller retarding action. This, doubtless, is the true explanation of the statements made by Mays and Engesser, that the presence of 0·3, or even 0·5, per cent. of the acid did not destroy the tryptic action. Kühne, for example, has shown that hydrochloric acid above 0·05 per cent. is injurious to the action of trypsin; while Heidenhain has shown that the addition of 0·1 per cent. of hydrochloric acid to an aqueous extract of pancreas stops its action.

In any ordinary digestive mixture, or even where albuminous matter is present only in small amount, the addition of hydrochloric or salicylic acid to a neutral solution of trypsin reduces its proteolytic action to a minimum before any free acid is present.

The addition of bile to a neutral or alkaline pancreatic juice causes but little change in its proteolytic action, and the pure biliary salts act in like manner, but the acids themselves, particularly the taurocholic, exert a manifest retarding action; a small percentage of glycocholic acid, on the other hand, appears to increase the ferment action; indeed, an increased activity of tryptic digestion of fibrin occurs in the presence of 10 per cent. of bile.

T. CRANSTOUN CHARLES, M.D.

ARTICLE 5027.

KISCH ON STERILITY IN WOMEN.

DR. E. H. KISCH, of Prague (*Deutsche Medicin. Wochenschrift*), begins by referring to three theories propounded in explanation of sterility. 1. What he calls the mechanical obstruction theory has been credited with a too general applicability. In truth, it does not apply to the majority of cases. 2. The antagonistic theory is, that disease of the female sexual organs causes sterility by rendering the uterus incapable of developing the ovum. This is an important, but not the sole, factor in accounting for sterility. 3. Dr. J. Matthews Duncan's theory is not more generally applicable, according to which our whole knowledge of sterility is to be comprehended under the expression a 'failure of reproductive energy.'

Sterility is rather one of the most complicated functional disturbances in woman. There is a combination of a series of etiological factors that contribute to sterility, and Dr. Kisch proposes to sketch that sterility, which has its origin in the incapacity to form a germ (*Unfähigkeit der Keimbildung*). This can be absolute and irremediable, from the entire absence or organic alteration of the ovaries; but he takes into consideration only relative and temporary incapacity. Germinal formation in the ovarium may be injuriously affected by pathological conditions in itself or its environment, by disturbances of innervation and constitutional anomalies. Imperfect development of the ovaries in young girls causes sterility, which will last till the organs gain strength. Statistics bear him out in this view. He gives the following statistics of 556 child-bearing women.

	The first birth takes place				
—	as long as ten months after marriage.	between ten and fifteen months after marriage.	between fifteen months and two years after marriage.	between two years and three years after marriage.	in more than three years after marriage.
In 163 women, married when between 15 and 19............	35	53	46	18	10
In 313 women, married when between 20 and 25............	98	113	56	32	14
In 70 women, married when between 26 and 32............	18	30	12	9	1
In 10 women, married when past 33	4	3	1	1	1

From these statistics he calculates the percentages, and finds them of course in favour of his views.

Another source of hindrance to germination lies in various pathological conditions of the ovaries, chronic oöphoritis being particularly instanced as an occasional hindrance to the formation of ovules. Both oöphoritis and peri-oöphoritis can lead to chronic sterility through the stages of parenchymatous inflammation, absorption of the follicles and their consequent collapse, contraction of the ovary, induration of tissue, and a general condition of the ovary, similar to what he has described as characteristic of the grand climacteric.

Peri-oöphoritis sometimes causes various ribbon-shaped adhesions which compress the ovary, induce atrophy, and hinder germination. Syphilitic disease of the ovaries also causes chronic inflammation leading to shrivelling up, formation of various adhesions, and sterility. Ovarian tumours are often complicated with sterility; but it is an open question whether in most cases sterility is the cause or the result. It is difficult to demonstrate how anomalous conditions of the blood, general nervous disturbances, febrile processes, constitutional anomalies, or toxic mischief, injuriously affect germination, but the fact that they do so is established; and he instances typhoid fever, chronic intermittent fever, nutritive disturbances (such as scrofula and obesity), opium-eating, and excessive use of alcohol.

Excessive formation of fat is injurious to germination, both in plants and in animals. Dr. Kisch long since pointed to amenorrhœa as occurring in corpulent women, and to the high percentage of sterility in such cases. By reducing corpulence, sterility has often been removed without any local treatment. Scrofula very frequently and most injuriously affects germination. Cicatrised scrofulous glands may sometimes give a hint. Chlorosis is also an obstacle to germination, but not so obstinate. He gives an instance of diabetes leading to atrophy of the ovaries. Then he shows that experiments on animals have demonstrated that imprisonment, fatigue, poor food, and unchastity are causes of sterility. Such, too, are undoubtedly disturbances of innervation, most frequently sudden cessation of menstruation after a fright, &c. He knows the case of a woman who had had two children, and in whom the menses were suppressed in consequence of a fright caused by a child being run over, remaining sterile ever since—*i.e.* for ten years.

J. ELLIOTT.

ARTICLE 5028.

LASHKEVITCH ON OXYGEN INHALATIONS IN NERVOUS DISEASES.

IN the *Russkaia Meditzina*, Nos. 8, 9, and 10, 1885, Professor V. G. Lashkevitch, of Kharkov, publishes a very interesting lecture on the use of oxygen inhalations in the treatment of diseases of the nervous system. At the outset, he states his surprise at the fact that text-books on neuropathology do not even mention such a powerful therapeutic agent.

Discussing its physiological action, the author points out the following facts. 1. Pure oxygen is absorbed by the blood in considerably greater proportions than the oxygen of the air (Claude Bernard, Gréhaut). 2. Inhalations of pure oxygen produce an increase in the daily excretion of urea (Claude Bernard, Ananoff). 3. At the same time, they increase the temperature of the body from 0°·2 C. to 0°·9 C. [This was shown by Ananoff's experiments on healthy men, and by Lashkevitch's observations on patients with typhus fever. However, experimental researches, carried out in Professor J. M. Dogel's laboratory by Drs. Naumoff and Belaëff, failed to give support to that statement. *See* the *Proceedings of the Kazan Society of Naturalists*, 1877, No. 97.—*Rep.*] 4. They retard the pulse while augmenting its volume. 5. They most powerfully lower reflex action [as Rosenthal, P. J. Uspensky, and Ananoff showed. Working under the guidance of Professor S. B. Botkin, Dr. Ananoff poisoned rabbits by strychnine, and then made them breathe in pure oxygen; no tetanic convulsions occurred during the stay of the animals in the oxygen atmosphere. (*See* Ananoff's inaugural dissertation *On the Therapeutic Use of Oxygen*, St. Petersburg, 1873.)—*Rep.*]. 6. They strikingly (three times as much as normal) increase the secretion of urine (V. G. Lashkevitch).

Passing to the therapeutic applications of oxygen inhalations, the author details eight successful and six unsuccessful cases. Oxygen proved useless in paralysis agitans (three cases), chronic meningomyelitis, spasmodic tabes, and chorea minor. It gave excellent results in the following cases. 1. In a severe case of hystero-epilepsy, the inhalations invariably and rapidly cut short the paroxysms, produced quiet sleep, improved the general state, and ultimately, after two weeks' treatment, cured the patient (at least temporarily). 2. In a case of hysteric motor and sensory hemiplegia, inhalations of one minute's duration removed all the symptoms. 3. In a severe case of hysteric convulsions and excitement after a mental shock, one minute's inhalations of oxygen, frequently repeated during the day, not only cut short the attacks, but brought a complete recovery. 4. In a severe case of agonising spasmodic cough in early pregnancy, the inhalations immediately arrested cough, and, after two days' use, cured the patient. 5. In a case of true hydrophobia (lyssa humana), the inhalations strikingly relieved the patient's sufferings (removed intense aërophobia, inhibited convulsions, &c.); the case, however, ended fatally. [A successful case of the treatment of hydrophobia by oxygen inhalations was published by Professor Lashkevitch in the *Meditzinsky Vestnik*, No. 16, 1871.] 7. In a case of syphilitic disease of the spinal cord, with spurious aërophobia and hydrophobia, and most intense muscular superexcitability, all the symptoms completely disappeared after treatment of three days' duration. 8. It was useful in a case of bronchial asthma, periodically recurring at the menstrual period.

Comparing these two groups of cases, Professor Lashkevitch points out that oxygen has proved of service in nervous disturbances of reflex nature, while, in the absence of the latter characteristic, it was found of no use whatever. Hence the author prophesies good success from the oxygen treatment in traumatic tetanus and eclampsia of reflex origin. He tried oxygen inhalations, also, in two cases of stenocardia in patients with arterial sclerosis and aortic dilatation, and in one case of Graves's disease. In the stenocardiac cases the paroxysms, which had previously lasted from one to two hours, and been very severe, under the treatment shortened to fifteen minutes, and became very mild. In the case of exophthalmic goître (a chloranæmic girl, aged 17), oxygen considerably relieved palpitation, and tension in the eyeball.

According to the author, oxygen has of late again come into favour with Russian practitioners. Thus, Dr. Ananoff has used it in tabes, epilepsy, nervous cardiac palpitation, hysteria, and Graves's disease (at Professor Botkin's suggestion). Dr. P. J. Uspensky has seen diminution of pain and improvement of coordination in locomotor ataxy. Dr. Afanasieff has published two successful cases of oxygen inhalations in pleuritis. Professor Yurïi T. Tchudnovsky, of St. Petersburg, has obtained good results in cases of incontrollable vomiting of pregnancy. Professor Bystroff, of St. Petersburg, has found the inhalations useful in a case of asphyctic cholera.

[In the LONDON MEDICAL RECORD, June 1885, p. 250, the reader will find two successful cases of oxygen treatment in eclampsia, published by Dr. Favr. In the *Revue Méd. de la Suisse Romande*, Oct. 15, 1883, and in the *Annales de Gynécologie*, May 1884, Dr. Mayor publishes five cases (four of his own, one of Manoir) of successful treatment of dyspepsia in pregnant women by daily inhalation of 4 to 10 litres of oxygen. In the *Deutsche Med. Wochenschr.*, No. 36, 1883, Dr. Albrecht stated that he treated patients suffering from bacillar phthisis by inhalations of pure oxygen, and saw arrest of falling of, and even an increase in, the body's weight, as well as diminution of dyspnœa. In the *Vratch*, No. 29, 1884, p. 456, a report may be found that Dr. Troncin, of Toulon, tried oxygen inhalations, repeated hourly, in Asiatic cholera, and saw improvement of the general state and pulse of the patients. In a preliminary note in the *Vratch*, No. 37, 1883, p. 577, Dr. P. Ambrozewicz writes that he, starting from Pasteur's statement concerning the anaërobic nature of the septic vibrio, produced artificial septicæmia in guinea-pigs, and tried to treat them by keeping them in an atmosphere of pure oxygen. The author's expectations, however, were not realised.

All the animals died, and only a few of them lived several hours longer than the control-animals kept in the ordinary atmosphere. The greatest resistance (survival for two days) was shown by animals which had been inoculated with cadaveric virus, only after a previous narcotisation with chloral and an hour's stay in oxygen. *See* also Dr. R. Neale's *Medical Digest*, sect. 227 : 3-4.—*Rep.*]

V. IDELSON, M.D.

ARTICLE 5029.

MILLER ON FERMENTATION PROCESSES IN THE DIGESTIVE TRACT, AND THE ACCOMPANYING SCHIZOMYCETES.

IN the *Deutsche Medicinische Wochenschrift* of Oct. 3, 1885, Dr. Miller has a paper on the above subject, of which we here give an abstract.

Of the whole digestive tract, the mouth presents the best conditions for the vegetation of schizomycetes, because in it there are the most varied nutritive substances accompanied by copious admission of air and favourable temperature, with none of the drawbacks that occur in the lower portion of the tract. The number of different schizomycetes which Dr. Miller has found in the mouth is twenty-five (the largest number he found in the same mouth was eleven, not counting the Leptothrix buccalis, Spirochaete dentium, and Vibrio buccalis). Of the above mentioned twenty-five, twelve are cocci and thirteen bacilli.

As to the mycetes found in the stomach, many experiments have led him to believe that they are to a great extent identical with those found in the mouth. To account for the presence of mycetes in the stomach, one plausible theory is that they are all introduced with the food. Less probable (though possible) is it, that they enter from below. But it would not be safe at once to assume that the great number of mycetes found lower in the tract enter from or through the mouth; for, while entrance *per anum* is not excluded, at the same time it must be remembered that a healthy stomach is considered impassable for many sporeless mycetes. Yet Dr. Miller's opinion, based on close observation, is that any fungus may, under certain conditions, pass intact through the stomach, and that most, if not all, of them find entrance through the mouth. To show how far they can resist the action of the gastric juices, he gives the following experiment. About three hours after a meal, he took a portion of the contents of the stomach of a patient who 'could empty his stomach at will any given time by eating a little fruit two hours previously,' and, excluding the air, kept it at blood-heat. In three hours he found three living schizomycetes, two yeast-fungi, and one fibrillar fungus. In ten hours, one schizomycete was still alive, and only after fourteen hours was all life extinguished, with the exception of the yeast and fibrillar fungi. The mixture exhibited a strongly acid reaction, the presence of lactic acid being pronounced.

The fact that a fungus perishes in a short time in artificial gastric juice containing ·2 per cent. of hydrochloric acid, is no proof that it cannot reach the bowels intact; for, in the first place, fungi swallowed at the commencement of a meal do not find the stomach filled with gastric juice, but in a neutral or alkaline condition—only in from half an hour to an hour and a half will there be hydrochloric acid in any considerable quantity. Then, again, the fungi are often imbedded in solid portions of the food, and are thus protected for a time from the action of the juice. And, lastly, liquids do not remain long in the stomach, and would therefore carry with them different fungi before the secretion of any quantity of hydrochloric acid.

Dr. Miller does not consider the experiment of Watson Cheyne and others conclusive, because made under conditions little resembling those of the stomach. We may gain from such experiments some knowledge of the antiseptic qualities of the gastric juice, but little insight into the actual process in the stomach itself. Digestion being different in animals, experiments on the latter are also of little importance here.

In order to reproduce as faithfully as possible the processes in the human stomach, Dr. Miller chewed a quantity of bread and meat, then added to four parts of this one part of milk, and put the mixture into different test-tubes, which were all, except one, sterilised and then plentifully inoculated with certain fungi. The test-tubes were kept at blood-heat; to each was added every ten minutes 2 cubic centimètres of an artificial gastric juice containing ·4 per cent. of hydrochloric acid, so that in an hour the mixture contained ·2 per cent. of hydrochloric acid, the maximum in actual digestion. At short intervals plate-cultures were made from the different tubes. Only from two and a quarter to two and a half hours from the beginning of the experiment (= meal) the fungi in the non-sterilised tube proved to have considerably diminished in number. In the tubes inoculated with gastric fungi possessing great powers of resistance, the diminution began half an hour later; while Miller's comma-bacillus, which is very susceptible to acids, exhibited only few colonies an hour and a half after the beginning of the experiment. Dr. Miller has so far never examined a fungus which could not easily have reached the bowels if swallowed at the beginning of a meal. But if swallowed two hours after the meal—*i.e.* at the height of digestion—the weaker fungi perished in a few minutes, whilst others resisted for more than two hours, and might, therefore, reach the bowels.

He comes to the conclusion that, considering how abnormally small is often the quantity of secreted gastric juice and its hydrochloric acid contents, the stomach presents as good as no barrier to the entrance of infective spores into the bowels, and that it depends on the condition of the latter whether a development of the admitted organism takes place.

This has been directly proved to be the case with the cholera-bacillus, in so far as Koch has discovered that, in order to render a guinea-pig receptive of the cholera-virus, it was not sufficient simply to neutralise the contents of the stomach to allow the fungi to enter the bowels, but that there must first be a natural or artificial 'torpidity of the bowels, with a cessation of the peristaltic motion.' Even the absorption of acid by particles of food seems to offer a certain protection to the fungi.

Another important question in this connection is, At what degree of acidity does fermentation cease in the stomach? or what quantity of a certain antiseptic (hydrochloric acid, salicylic acid, &c.) is required to put an end to abnormal fermentation in the stomach or bowels? The following experiment was made with a view to the answering of this question.

Dr. Miller chewed a quantity of bread and meat, added some sugar and a sufficient quantity of milk. This mixture was plentifully infected with three kinds of stomach fungi, all possessing the property of forming large quantities of gas, and then mixed with an equal quantity of from 3 to 4 per cent. peptone sugar gelatine.

This mixture stood in the stove for an hour, and was then divided into several equal portions (20 cubic centimètres). Hydrochloric acid was added to them in increasing quantities, so that the first portion received 4 parts of hydrochloric acid to 10,000 and the last 2 to 1,000. All were then poured into different test-tubes, the level of the mixture being marked on each tube. Stiffening soon took place, and in a few hours, in those tubes in which fermentation followed, a raising of the level was caused by the formation of gas, the wadding stoppers and a part of the mixture being even forced out of the first tubes. It appeared that only when the proportion of hydrochloric acid was 1·6 to 1,000 the level remained unchanged; in other words, fermentation stopped. This he could effect by salicylic acid in the proportion of ·4 to 1,000. To immediately stay fermentation in one litre of a fermenting mixture, at least 1·6 grammes of hydrochloric acid (6·4 grammes of a hydrochloric acid solution of 1·1233 specific gravity) or ·4 of salicylic acid, must be added. In fermentation in the stomach, it is not a question of the total absence of hydrochloric acid, but only of a diminution of its quantity. Therefore the quantity of the antiseptic required to stay fermentation must depend on the intensity of the latter and the quantity of the stomach contents. But in any case very considerable doses of hydrochloric acid must be given to produce an effect.

Bidder and Schmidt estimate the daily secretion of gastric juice at from 10 to 20 litres. If we regard this estimate as from two to three times too high, and accept 5 litres as a normal quantity, this would correspond to 10 grammes of hydrochloric acid, or about 40 grammes of a hydrochloric acid solution of 1·1233 specific gravity, which are said to be daily poured into the stomach. Taking the proportion of 2 of hydrochloric acid to 1,000 as that at which fermentation does not take place, and supposing that it takes place when the proportion of hydrochloric acid is reduced to 1·6, we may reckon on a deficiency of hydrochloric acid, of at least ·4 grammes per litre of stomach contents, and this quantity would have to be administered to restore the normal conditions.

In ordinary lactic acid fermentation outside the stomach, the process is stopped after some hours by the acid that is formed. But this does not hold good in the stomach, since the acid is pretty quickly removed by absorption, and the acidified contents of the stomach are several times a day supplanted by new material.

The results above given further prove how insignificant a change in the quality or quantity of the gastric juice suffices to render a fermentation of considerable duration possible in the stomach. It might certainly be objected that in the coagulated mixture the hydrochloric acid cannot exercise its full effect, yet the test experiments made at blood-heat showed that at this temperature fermentation can occur with a still higher proportion of hydrochloric acid.

Dr. Miller tried the effect of all these fungi on carbo-hydrates, in order particularly to test their acid-forming capacity, hoping thus to establish the cause of the formation of acid in the mouth. Thus he cultivated them in saccharated meat-extract, in saccharine solutions of pepsine, and in milk. Of the mouth-fungi, sixteen gave an acid reaction, four alkaline, while with five there was no decided result. With the stomach-fungi, the figures were respectively nine, two, and two; and with the bowel-fungi six, five, and three. Thus the proportion of acid-forming fungi in the mouth and stomach is considerably greater than that of the bowel-fungi; but it is questionable if all experiments will yield the same ratio.

Cultures in sterilised milk yielded somewhat diverging results; nor was it possible to draw a sharp line between fungi that gave an acid and those that gave an alkaline reaction, seeing that the reaction in some cases was only very weak, and, further, after a time varied, whilst in others it was materially influenced by an alteration of the saccharine contents.

By the change of substances in growing cells, products arise which give the fluid an alkaline reaction, while substances produced by saccharine fermentation give an acid. Thus the reaction depends on the excess of the former or the latter. Nor does Dr. Miller think that putrefactive and fermentative fungi can be clearly distinguished. A mouth-fungus which he examined quickly dissolved the boiled albumen of an egg, at the same time yielding malodorous products, amongst which sulphuretted hydrogen and ammonia were easily distinguished; in the second place, it exhibited an inversive effect, changing cane-sugar into dextrose and lævulose; thirdly, it decomposed fermentable sugars into lactic acid, developing at the same time carbonic acid; fourthly, in a starch-solution of meat-extract it caused acid reaction, the solution becoming slightly reducible by oxide of copper. In other words, this fungus possesses a diastatic power.

Dr. Miller then points to the fact that probably in the last stages of their different fermentations there are many secondary products in the case of one and the same organism. The twenty to thirty different substances arising from putrefying mixture exposed to the air may, indeed, not be the result of one fungus, but neither is it correct to suppose that every product owes its origin to a different fungus.

Impossible as it is to determine the acid for every one of the numerous fungi, he yet found that out of eighteen cases ten gave lactic acid, and it has been established that many of the schizomycetes have this property, as well as that of peptonising and inverting. Thus we have an explanation of frequent or constant lactic acid in the stomach and bowels. Among other acids he has found by analysis, crystallisation, and the colour-test, he instances acetic, pomic, citric, and also oxalic acids, with their salts; and many more are possible. All these must be excluded before the proof of lactic acid can be relied on, as all react in the same way.

Microscopically, great differences are to be observed in fermentations produced by different lactic acid fungi, especially as regards the gases developed. Often we find lactic acid fermentations without a trace of gas development; on the other hand, some of the above-mentioned fungi form large quantities of gas (CO_2 + H), so that the gelatine in the cultures is cleft in all directions, or a portion of it forced out of the tube, or even the tube itself burst by the pressure. This is in itself a proof of the absence of pure lactic acid fermentation, according to the equation $C_6H_{12}O_6 = 2C_3H_6O_3$, and analysis indicates the other above-named acids. Of such gas-forming fungi he particularly mentions five, which regularly formed large gas-bubbles in the gelatine or tore it up altogether. One of these he has found in fæces and gangrenous tooth-pulp. This accounts for the frequency of dental abscesses. If a tooth with necrosed pulp be stopped without previous removal of the pulp and sterilisation of the cavity, the gas that subsequently forms forces itself through the foramen at the point of the fang, or even carries little particles of the decayed pulp along with it, which cause inflammation. Holes are sometimes found bored into the teeth, through which pus and stinking gases constantly escape into the mouth.

Of the other gas-forming fungi, Dr. Miller has found three in the stomach and one in the fæces, whose effect may be imagined.

Another important question is that which refers to the peptonising effect of the bowel-fungi particularly. They generally flourish on boiled albumen of egg, and therefore may be credited with a peptonising quality. The albumen was prepared in the test-tubes so as to expose the greatest possible surface, being then kept in a damp chamber to prevent desiccation. In this way, it can be kept sterile for any length of time. Four fungi did not develop at all on this 'bed'; six showed very limited growth, but the rest flourished and in some cases completely liquefied the albumen. Whether they form more peptone than is necessary for their nourishment, in fact, whether and in how far they may beneficially affect the human body by this quality of theirs, is a difficult question. An experiment was made with a comma-bacillus on a considerable quantity of sterilised egg-albumen, and at the end of the third day, on removal of the albumen, traces of peptone were discovered by the bi-urate test.

Less frequently has Dr. Miller found traces of diastatic effect; in fact, only once in nine times. This one changed starch into a reducing sugar, which in its turn became an acid. It is no proof of diastatic effect in a fungus that it flourishes on slices of cooked potato; for it does not depend solely on the starch, but can find nourishment for a time just as well in the proteid, sugar, &c., of the potato.

Of fifty kinds of fungi, not one was found which flourished *better* without than with admission of air—*i.e.* that could be termed anaerobic. On the other hand, there was every intermediate grade, from such as did not grow at all without the oxygen of the air to such as flourished equally well with or without oxygen. The admission of air in limited quantity caused in most cases a dwarfish growth. The results of all these experiments may be thus summarised.

1. A large number of fungi occur *in all parts* of the digestive tract.

2. The gastric juice seldom prevents fungi from reaching the bowels alive; *never*, as far as Dr. Miller's experience goes, if the fungi be swallowed at the commencement of the meal; and only the more delicate ones, if digestion be at its height.

3. Lactic acid fermentation can continue in the stomach until the contents have reached a degree of acidity of about 1·6 of hydrochloric acid to 1,000. If too little hydrochloric acid be secreted, or proportionately too much food be taken, fermentation will continue. Diseases of the stomach and general disturbance of its health (fever, &c.) favour fermentation by disturbing the secretion of gastric juice.

4. Fermentation in the stomach can be more easily remedied by salicylic than by hydrochloric acid.

5. No inconsiderable number of the fungi of the digestive tract cause lactic acid fermentation in solutions containing carbo-hydrates, thus explaining the frequent occurrence of lactic acid.

6. In the case of five species of fungus, fermentation proceeded with formation of considerable quantities of carbonic acid and sulphuretted hydrogen.

7. No clear distinction is possible between fungi that cause an acid reaction, and those that cause an alkaline, nor between fermentative and putrefactive fungi.

8. He has in most fungi proved a peptonising effect, but much less frequently a diastatic effect.

JOHN ELLIOTT.

ARTICLE 5030.

MONTI ON THE TREATMENT OF CONGENITAL SYPHILIS BY THE OLDER AND NEWER METHODS.

PROFESSOR MONTI, of Vienna, contributes a valuable paper on this subject to the *Archiv für Kinderheilkunde*, Band vi., Heft 1. Of treatment by inunction, the oldest is that in which blue ointment is employed. It is still largely used; but the objection to it is that it oxidises too readily in this form, and is then apt to produce eczema. Oleate of mercury is extensively used instead of the blue ointment; and mercurial plasters have been substituted by some, while Charcot recommends mercurial soap. All those compounds are, however, more or less unsuited to the tender skin of infants, the least objectionable being the oleate of mercury. Dr. Monti has, however, had no personal experience of the soap. Moreover, inunction involves considerable risk of the system rapidly absorbing an excessive quantity of the drug, and in the case of very young infants this leads to acute anæmia. He has also come to the conclusion that the sudden death which is not an uncommon incident in hereditary syphilis occurs with far greater frequency where this has been treated by inunction. For these reasons, he has for some years ceased to use it in the case of children under one year. The next treatment under review is that by calomel. This also has a tendency to produce anæmia, and should, therefore, be given as a powder in combination with lactate of iron. This should be discontinued when the first symptoms have disappeared, and saccharated iodide of iron substituted until the spleen is no longer felt or the skin has resumed its normal colour; but should the disease reappear in the skin, mucous membrane, or bones, calomel must again be resorted to. In some rare cases, such as those where there is great irritability of the intestinal tract, a subcutaneous injection of a freshly prepared mixture of calomel suspended in mucilage may be administered.

The treatment by corrosive sublimate gives very satisfactory results, provided it be not too long continued, in which case symptoms of gastric irritation will supervene. This drug is also administered in the form of a bath, which should contain about seven grains; but, in the writer's experience, their effect upon the disease is very slow, and should therefore be accompanied by calomel internally, and in that way they appear to hasten the cure. The best mode of giving corrosive sublimate is by subcutaneous injection. The solution should consist of perchloride of mercury gr. jss., chlorate of soda gr. vj., and water 150 grains, and of this one-half to one syringeful should be used every day or every other day until the symptoms disappear, to be renewed upon their return. The punctures are best made upon the abdomen or chest, and must not be too close together.

The injection is in general well borne, and, according to Dr. Monti's experience, never produces mercurialism, and causes very little loss of flesh. It cannot be denied, however, that infants do not bear these injections so well as adults; even with the greatest care, it is not uncommon to find induration of the cellular tissue and abscesses at the seats of puncture. It is also not suitable for out-patients, because the mothers decline to bring the children after the first few times. Notwithstanding that the symptoms subside more rapidly under this treatment than under any other, the author has of late confined its use to cases that would not bear mercury internally.

Albuminate of mercury, as recommended by Bamberger, is preferable for hypodermic use to corrosive sublimate, provided the solution be clear; but it is excessively unstable, and, if used in a cloudy state, produces irritation and abscesses. Much the same objection applies to mercury-peptone, though it is rather more stable. Formamide of mercury (Liebreich) is unsuited to children. Protiodide of mercury produces excellent results, especially when combined in a powder with lactate of iron, and perhaps no other remedy acts so promptly upon syphilitic affections of the bones. Unfortunately, it produces diarrhœa and colic, and the addition of Dover's powder to the above compound soon ceases to have any effect. Consequently, Dr. Monti only gives it in cases where bone-affections exist from the beginning. Black oxide of mercury, as recommended by Henoch, was found to produce vomiting, and was therefore soon given up. The author has had only a limited experience of hydrargyrum tannicum oxydulatum (Ludwig), but is favourably impressed by it, more especially because it does not appear to affect the digestive organs. It is now a recognised fact, that hereditary syphilis can be cured by preparations of iodine as well as, though more slowly than, by mercury. It may be given as iodide of potassium, to which, however, there are on the whole insuperable objections, or as saccharated iodide of iron. The treatment of syphilis with this drug was favourably commented upon by the author in a paper on the subject in 1876 (see LONDON MEDICAL RECORD, vol. iv., p. 222), and his subsequent experience of it has confirmed this predilection. It is borne well by children of any age, improves their nutrition, and never produces iodism; but it is much slower in its action than mercury, and is therefore best suited for very chronic cases. It should be given as a powder; for, if the syrup be used, it is apt to produce diarrhœa. Three grains may be divided into ten powders, and a new-born child may have two or three daily, dissolved in milk. RALPH W. LEFTWICH, M.D.

M. ROUYER recommends cauterising with nitrate of silver in cases of traumatic erysipelas. He uses a 1·5 per cent. solution. This was in the first instance tested with success on a patient whose leg had been amputated for a gunshot-wound, when serious erysipelas supervened. Subsequent cases have been equally satisfactory. [The local application of nitrate of silver in erysipelas was strongly recommended many years ago by the late Mr. John Higginbottom, of Nottingham.]

ARTICLE 5031.

SUTTON ON THE NATURE OF LIGAMENTS.*

THE appearance, in the last number of the *Journal of Anatomy and Physiology*, of another of the original and suggestive papers by Mr. Sutton on the nature of certain ligaments, seems a convenient opportunity for summarising the work which he has done in this direction up to the present. Mr. Sutton considers that muscles, particularly of the extremities, and especially of their distal portions, may from partial or complete disuse, or alteration of function, become in certain respects modified.

1. The extremities or a great part of the structure may become tendon. (Metamorphosis.)

2. Points of origin may become shifted (this generally at the proximal extremity). (Migration.)

3. The whole muscle may become fibrous tissue. (Regression.)

Taking the ligaments dealt with in anatomical groups, his results may be summarised as follows.

I. *Vertebral Column.*—1. The ligamentum suspensorium dentis marks the course of the notochord from the body of the axis into the basi-occipital bone. 2. The check ligaments of the axis and the transverse ligament of the atlas are representatives of the ligamentum conjugale costarum of the seal and many other animals, and are present in the human fœtus at birth. 3. The posterior common ligament is a thickening of the connective tissue between each conjugal ligament. 4. The anterior common ligament is a degenerated representative in mammals of the subnotochordal rod of ichthyopsida.

II. *Clavicular Ligaments, &c.*—1. The inter-articular fibro-cartilage at the sterno-clavicular joint represents the omo-sternum of the opossum and other animals. 2. The rhomboid ligament represents the muscle from the cartilage of the first rib to the omo-sternum in the opossum. This muscle is thought to make up a part of the subclavius. 3. The ligament forming the free edge of the costo-coracoid represents the long coracoid of birds and monotremata.

III. *Scapular Ligaments.*—1. The coraco-acromial represents the hoop-like process of bone in the two-toed sloth. 2. The transverse may be fibres of the supraspinatus muscle (porpoise) or bone (sloth). The author thinks this the more usual occurrence. An ossified transverse ligament, then, from this point of view, would be a return to the normal, rather than an abnormality. 3. In this connection may be mentioned the scapular loop in penguins, transmitting the tendons of the latissimus dorsi, which consists of modified fibres of the deltoid.

IV. *Shoulder-joint and Arm.*—1. In two of his papers, the author treats at length of the gleno-humeral or Flood's ligament. This he believes to be the tendon of the subclavius muscle. He finds that every mammal possessing this ligament has also a ligamentum teres; that where the latter is absent, so is the former; and that a large development of the former coexists with a similar condition of the latter. As bearing on his theory already enunciated he notes: *a.* that all amphibians which possess the equivalent of the subclavius, the epicoraco-humeral of Mivart, in a well developed form, lack the gleno-humeral ligament; *b.* that in birds, in whom the subclavius, under the name of levator humeri, reaches its maximum of development, it passes through the shoulder-joint to be inserted into the humerus; here, also, there is no gleno-humeral ligament; *c*. that in mammals the subclavius is a very constant muscle, and the gleno-humeral ligament exists in a very large number of them. When not separated as a free ligament it may often be detected blended with the capsule of the shoulder-joint, but lying between it and the synovial membrane. 2. The *coraco-brachialis* may be considered as three parts: (*a*) the fibrous loop connected with the lesser tuberosity may be distinct, and represent the rotator humeri; (*b*) the middle part is the coraco-brachialis of man; (*c*) the lower part, connecting the tendon to the internal condyle, is rarely fully developed, but exists as a fibrous band, the internal brachial ligament of Struthers.

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* *Journal of Anatomy and Physiology*, vol. xvii., Jan. 1883; vol. xviii., Jan. 1884; vol. xix., Oct. 1884; vol. xx., Oct. 1885.

V. *Hip.*—The ligamentum teres represents the tendon of the pectineus.

VI. *Knee.*—1. The external lateral ligament represents the tendon of the peroneus longus. 2. The internal lateral ligament represents the tendon of the adductor longus. 3. The semilunar cartilages cannot be with certainty assigned to any special muscles, save that, in part, at least, the semi-membranosus forms the inner. The popliteus may have some connection with the external, which may also represent the sole remnant of the long tendon of the femoro-caudal of some animals (*e.g.* iguana). 4. In this connection may be mentioned the loop for the tendon of the biceps met with in birds, and formed either altogether, or only internally (rhea, emu, and others), of tendon. In the latter case, the outer portion is formed of fibres of the outer head of gastrocnemius. From this muscle the loop appears to be formed, its causation being due to the bending of the leg at a more or less acute angle with the thigh, thus producing a drag upon the muscular fibres between which the biceps passes. Mr. Sutton believes that this explains the fibrous expansion of the tendon of the biceps over the outer aspect of the leg in man.

VII. *Tibio-fibular Ligaments.*—1. The interosseous ligaments of the leg may represent the peroneo-tibial muscles of hatteria, iguana, wombat, and others. 2. The posterior superior tibio-fibular may represent the rotator fibulæ. 3. The transverse ligament of the inferior tibio-fibular articulation may represent the lower end of the peroneo-tibial muscles.

VIII. *Ankle.*—1. The anterior and middle fasciculi of the external lateral ligaments are derived from the extensor brevis digitorum, as it slips down from the fibula to the dorsum of the foot. 2. The posterior fasciculus of the same represents the lower end of the peroneo-tibial muscles. 3. Of the anterior annular ligaments, the superior is due to thickening of connective tissue consequent on flexion of the limb, and belongs to the leg; the inferior is the property of the tarsus, and is derived originally from the remains of an old attachment of the extensor longus digitorum to the tarsus. The oblique bar at the lower end of the tibio-tarsus in birds is homologous with this; it is an adventitious ossification, and not an essential element of the tarsus.

IX. *Foot.*—1. The long plantar ligament represents the tendon of the gastrocnemius. The continuity of this ligament with the tendo Achillis is evident in the human fœtus, as late as the sixth month. After the seventh month, the tendon becomes divided by extra growth occurring at the posterior extremity of the os calcis. 2. The calcaneo-scaphoid ligament is the representative of the calcaneo-metatarsal muscle in the frog.

BERTRAM C. A. WINDLE, M.D.

ARTICLE 5032.

FEHLEISEN ON THE INFLUENCE OF DISTENSION OF THE RECTUM ON THE POSITION OF THE BLADDER.

IN the *Archiv für Klin. Chir.*, Band xxxii., Heft 3, Dr. Fehleisen, of Berlin, details the results of some experiments made to determine the relative parts played by distension of the rectum and of the bladder, in elevation of the latter viscus by Petersen's method. At the seventh Congress of the German Society of Surgery, Braune stated that by distension of the rectum of the cadaver, and subsequent median section after freezing, he had proved that the internal orifice of the urethra rises from behind the middle to the upper margin of the symphysis pubis, and that a considerable change is effected in the length and curvature of that which is commonly regarded as the fixed portion of the urethral canal. The influence of distension of the rectum on the position of the prevesical fold of peritoneum, passed over in silence by Braune, was first pointed out in 1878 by Garson, who was led by the results of his experiments to recommend plugging and fluid distension of the rectum in the operation of suprapubic lithotomy, with the object of avoiding with certainty wounding of the peritoneum. Two years later, Petersen published the results of a series of researches made in order to determine the influence of rectal distension on the position of the prevesical fold, and proved, as Garson had done, that the bladder may be elevated to such an extent as to be capable of being readily exposed above the pubes without injury to the peritoneum. In children, as the bladder is more elevated than in adults, the conditions of suprapubic section, as proved by Bergmann and Mannheim, are rendered still more favourable. Fehleisen, in experiments made at the suggestion of Bergmann, found on section of frozen bodies that in ordinary conditions, when the rectum is empty and the bladder contains a moderate quantity (300 cubic centimètres), the latter viscus is rounded, its fundus is directed backwards and on a level with the deepest part of the pouch of Douglas, the internal orifice of the urethra is situated about 4 centimètres behind the symphysis pubis and 1 centimètre above its lower margin, and the prevesical fold of peritoneum reaches downwards to a point about half a centimètre above the upper margin of the symphysis. When the rectum is distended (480 cubic centimètres) and the bladder contains but a small quantity of fluid (200 centigrammes), the internal orifice of the urethra is moved to a point about 4 centimètres above the lower margin of the symphysis, and rather less than 1 centimètre behind it. The bladder is no longer round, but presents the form of an irregular pentagon. The pouch of Douglas is obliterated, and the prevesical peritoneal fold is elevated to a line about 4 centimètres above the upper margin of the symphysis. Distension of the bladder alone, the rectum being empty, has very little influence on the position of the prevesical fold, and acts backwards and downwards much more than in the direction forwards. On injection of 630 cubic centimètres of fluid into the bladder, the anterior fold of peritoneum does not stand higher than a level of about 2 centimètres above the upper margin of the symphysis. On the other hand, when both bladder and rectum are distended, the former by 420 and the latter by 560 cubic centimètres, the prevesical fold is elevated about 8½ centimètres above the upper margin of the symphysis, and the internal orifice of the urethra 2½ centimètres above the lower margin.

Dr. Fehleisen's investigations show that, in order to raise the prevesical fold far above the symphysis, it is necessary to distend the bladder as well as the rectum. When both bladder and rectum are empty, this fold is placed about 2½ centimètres below the upper margin of the symphysis. By a maximum distension of the bladder alone in a healthy subject, the fold can be raised to a point about 2 centimètres above the upper margin of the symphysis. In order to effect this, it is necessary to inject at least 630 cubic centimètres of fluid; but in a pathological condition of the bladder it would be dangerous to attempt to introduce any such quantity. It would, therefore, be difficult to perform the high operation with safety after fluid distension of the bladder alone. Injection into both bladder and rectum is regarded as the preferable method, and it is recommended that the bag be introduced into the intestine as far as the promontory of the sacrum, and then distended by the injection of from 450 to 500 cubic centimètres of water, so as to occupy the concavity of the sacrum, and to press upwards the prostate and the fundus of the bladder. Then an injection of about 200 cubic centimètres of fluid into the bladder will be found sufficient to raise the prevesical fold to a point about 4 centimètres above the symphysis. Fehleisen holds, in opposition to Petersen, that it is better to inject more fluid into the rectum than into the bladder. By distension of the rectum, the bladder is elevated and pushed forwards, and the inner orifice of the urethra is carried nearer both to the posterior surface and to the upper margin of the symphysis. By distension of the rectum, also, the bladder is not only elevated but elongated, its posterior wall is brought nearer the front of the abdomen, the viscus is much more accessible from above, and the surgeon can obtain a better view of its interior and operate more readily, especially in cases of vesical tumour. W. Johnson Smith.

Article 5033.

REBER ON HAMAMELIS VIRGINICA.

B. Reber, the editor of *Der Fortschritt*, Dec. 5, 1885, No. 23) publishes a paper on the properties and the employment of Hamamelis virginica.

After giving an exhaustive literary survey of all the pamphlets and papers treating of this plant up to the present time, he continues :—The witch-hazel, called by Linnæus, not very appropriately according to the present view of the leading American botanists, hamamelis virginica, is more or less noticed in all botanical handbooks. A. W. Chapman mentions this plant in his *Flora of the Southern United States.* De Candolle, in his *Prodromus Systematis Naturalis Regni Vegetalis*, ranges it in the order of the Hamelideæ of the tribe Hamameleæ. At present, however, it is placed among the Saxifrage family, in which it is also placed by Baillon in his *Histoire des Plantes*, who informs us that the plant contains tannin and an acrid oil, and possesses moreover astringent properties.

The scanty number of species of this family mostly form shrubs, rarely trees, and are distributed over Northern America, China, Japan, India, and Persia; some are likewise met with at Madagascar and at the Cape. The species in question, however, is very common on marshy banks, especially at the east side of rivers throughout New England, Pennsylvania, and Virginia; on the banks of the Mississippi, and from the Gulf of Mexico to Canada. All naturalists point out that the witch-hazel is employed by the aboriginals for magic purposes, especially the young twigs for discovering hidden springs. This corresponds to similar superstitions on the mysterious power of our common hazel-nut (corylus avellana) still lurking in some countries of Europe. The hamamelis virginica meets popular imagination by some of its qualities. Several naturalists—namely, Bigelow, Emerson, &c.—point out the very peculiar appearance of this plant during the different seasons, particularly in the late autumn, when, at the same time, it sheds the leaves, bears fruit, and blossoms, and, amidst the glorious autumn tints of the wood, its clusters of beautiful yellow flowers will show, continuing from the fall of the leaves until late in November.

The shrub, sometimes attains the height of 20 feet, and the tree mostly forms immediately after germination several twisted stems from 5 to 6 inches in diameter. The younger branches have a smooth brown bark invested with red down, whilst the older branches are rugged and cracked, and of grey colour. The alternate sessile leaves resemble those of our common hazel; they are unsymmetrical at the base, dentate, when young, covered with stellate hairs, and of deep dark-green colour, with raised small spots underneath.

The flowers appear in the axils of the leaves or sessile on the branches, in small globular clusters, always supported by two or three bracts forming a kind of calyx. The four-parted imbricated sepals of the calyx surround the long ligulate petals of the corolla. Four of the eight stamens arise from the calyx, and four are inserted with the petals. The compound ovary supports two curved pistils. Many blossoms are sterile. The dry capsular fruit adheres to a bony pericarp, is of brown colour, and resembles our hazel-nut. It opens at the apex into two shells, each enclosing a glittering black kernel with a white hilum. The embryo is white, and rich in albumen and oil. The cotyledons are oblong and leaf-like.

The bark as well as the flowers emit, when fresh, a peculiar characteristic odour. On chewing, they are at first bitter and astringent, and leave a long-lasting after-taste.

The plant contains no alkaloids, but, besides a wax-like substance, tannin, gallic acid, red dye, salts of lime, iron, and potassium, and an essential very aromatic oil, in which particularly the leaves are very rich. This oil is of greenish yellow colour, is very volatile, possesses in the highest degree the characteristic smell of the hamamelis, and probably forms the active constituent of the plant.

The hamamelis has always been in America and India one of the most popular empiric remedies, especially for tumours, ulcers, and all kinds of skin-diseases, for which purpose poultices of the powdered bark are employed. Proper scientific observations on the action of this plant have been made only within the last twenty years, but are at present very numerous.

The hamamelis has been tried in various diseases, and, according to report, with good effect in puerperal hæmorrhage, and in hæmorrhage from piles and varicose veins. This styptic action appears to be the most valuable property of the hamamelis.

Among its pharmaceutical preparations, the fluid extract and an alcoholic distillate take the first rank. There is barely a home or a family medicine-chest in the United States of North America in which may not be found this distillate of hamamelis (known there by the name of 'Pond's Extract'). This extract contains 10 per cent. of alcohol, and, being of a somewhat disagreeable smell, it is prescribed in the following form : Extracti fluidi hamamel., syrup. cort. aurant., āā ℥jss. ; tinct. vanillæ ♏xx. The dose is four to ten teaspoonsful daily. Like all fluid extracts, that of hamamelis contains one gramme of the plant to one gramme of the extract.

The preparation sold under the name of 'hazeline' is the distillate from the fresh bark of the hamamelis virginica. Besides this, there is a tincture in the proportion of one to ten in use. The French prescribe it in the following form : extract of hamamelis, alcohol, and water, equal parts. In America also a dry extract, under the name of hamameline or hamamelidine, is used in pills, from 0·03 to 0·13 gramme (half a grain to two grains). Besides this also a decoction of the plant (30 : 500), and in hæmorrhoids an ointment consisting of three parts of the tincture to thirty parts of fat, or suppositories with one centigramme (one-sixth of a grain) have been prescribed.

All the physiological and therapeutical experiments with the various preparations of hamamelis show that this remedy may be employed without injurious effects, even in large doses, and for a long time. Not a single case of poisoning has yet been known. But all observations prove the peculiar action of this remedy on the blood-vessels.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5034.

ORD ON THE HEAT OF FEVER.

IN the *Brit. Med. Jour.*, Oct. 1885, p. 782, is published an excellent address by Dr. Ord on 'The Heat of Fever.'

The author starts with the question as to how the increased heat of the body in fever is brought about. It is generally stated that this is simply a matter of increase of combustion ; that the oxidation-processes of the body go on with undue vigour in fever ; that the system is burning its candle at both ends, and that the two flames give more heat than one. For some years Dr. Ord has not been able to accept this theory, and an article on 'The Process of Fever' by Dr. Burdon Sanderson in 1875 greatly helped to bring about this change of thought in Dr. Ord's mind. Dr. Sanderson states how, from careful calculation, he concludes that although, as compared with a healthy individual when on fever-diet, the production of heat during fever is excessive, yet it is not by any means greater than the production of heat in health.

After a careful study of this article of Dr. Sanderson's, the increased combustion theory no longer satisfied Dr. Ord. Some have argued that the increase of heat in the body is brought about by retention ; but Leyden and Liebermeister have shown that, far from being retained, heat is discharged from the surface in larger quantities during fever than in health. As neither of these suggestions pleases the author, he draws attention to another possibility, and gives the following illustration to explain his theory. Suppose a metal basin containing water to be placed over a flame, and the water to be brought to boiling-point. If a thermometer be placed in the water, it will never rise above 212° F. as long as there is water left. This is a parallel to the marvellous heat-regulation of the body, which maintains it at a fixed temperature.

In the case of the flame, the heat is used up in turning water into steam. Now let oil be poured on the surface of the water ; the temperature rises in the water, as it would in the system on the retention-hypothesis. On the other hand, let the water evaporate entirely. Then the metal basin becomes heated indefinitely, and the thermometer rises in proportion. The author then asks—'Is it possible that the increased heat of fever may be brought about by the cessation of processes in which heat ought to be used up—either as motion, or chemical action, or other kind of energy ; so that, the process which may be represented by the boiling water ceasing to exist, like the water when boiled away, the heat generated for maintenance of the process overflows, and warms to excess the body, like the metal basin from which the water has evaporated ? Is the increment of heat of body in fever due not only to combustion or other disintegrative process thereto allied, but also to the persistence, in the form of heat, of energy which should have taken another form ?' This, the author thinks, is highly probable.

There are two processes ever going on in the body ; the building up of tissues on the one hand, their disintegration on the other. The disintegration of tissues is clearly attended by the liberation of heat. Their upbuilding is most probably attended by the consumption or disappearance of heat, which assumes some other form of energy, kinetic or potential. In fever, the changes produced in the body are exactly the reverse of those in health, and indicate that there is, first, a cessation of changes which should occur in health ; and, secondly, a production of changes not occurring in health. The idea which the author wishes to establish is, that the variations of chemical changes occurring in fever indicate the cessation, in various degrees, of that process of tissue-building which should in health use up heat, and which, ceasing in fever, leaves heat to run wild. These statements are based upon results obtained by Dr. Ord from experiments made upon growing fruit, the records of which the author gives in his address, and are most interesting.

In applying these experiments to the question of the causation of pyrexia and hyperpyrexia, the author refers to what Dr. Broadbent has written, viz. : 'If a theory of the febrile process is to be formed, it must be based upon a theory of the relation between the nervous system and the processes of nutrition and oxidation, and especially the latter.' Dr. Ord believes that, in the production of fever-heat, there is a first factor of increased oxidation, or combustion, or disintegration, setting free heat.

This, however, is not sufficient to account for all the increase of heat observed in pyrexia; but the further increment is furnished by heat going astray in default of correlative changes in metabolism. The nervous system is supposed to possess the power of inciting, on the one hand, to disintegration, on the other hand of controlling, the nutritive functions. What Dr. Ord suggests is, that in fever there is superadded to the combustions, which we recognise, atrophic influence of the nervous system, arresting processes in which heat should be transformed; and that the increasing temperature of fever is determined by increase of this inhibitory influence. With reference to treatment, the author states that in baths we have a means of attracting, as it were, the attention of the nervous system and drawing it off from certain pernicious paths upon which it has embarked. The application to the whole surface of the body of water, at a different temperature from that of the body, acts in fever by exerting a reflex inhibitory influence upon the nervous system, leading to a relaxation of its trophic constraint. RICHARD NEALE, M.D.

ARTICLE 5035.

BUCHNER, EHRLICH, AND OTHERS ON THE CHEMISTRY OF THE URINE.

BUCHNER has proposed the following *modification of Fehling's method for sugar.* Many saccharine urines only give an opalescent yellowish-red coloration, and no red precipitate of cuprous oxide, when heated with Fehling's solution, making therefore the presence of sugar appear doubtful. In such cases, the urine is to be boiled with excess of cupric sulphate solution (1 : 10). The greyish-green precipitate is to be separated, and potassic hydrate, or some Fehling's solution, to be added to the filtrate, on boiling which the red suboxide of copper will be deposited, if even a small proportion of sugar be present.

Ehrlich has proposed *paradiazobenzol-sulphonic acid as an urinary test.* It may be readily prepared by adding a few fragments of sodic nitrite to a watery solution of sulphanilic acid, acidulated with 6 to 10 per cent. of pure nitric acid. Normal urine treated with this reagent shows only a slight change of colour; but in certain diseased conditions the reagent gives the urine a carmine or purple-red colour, well marked in the froth. The urine of pulmonary phthisis, typhoid fever, and scarlatina gives this reaction. It is probably due to the presence of pyrocatechin or some other phenyl compound; but, as Penzold has shown, the same reaction may be given by acetone, lactose, saccharose, and glucose, with this reagent in presence of alkalies.

After the *ingestion of chloral, urochloralic acid is eliminated.* It can be thus separated (Kultz). Agitate the urine with a mixture of ether, alcohol, and sulphuric acid, and evaporate the extract thus obtained; the dissolved residue is to be precipitated with neutral, and then with basic lead-acetate. Decompose with hydric sulphide, and, having removed the lead sulphide and the excess of hydric sulphide, neutralise with baric hydrate and evaporate to crystallisation. Decompose the baric salt with dilute sulphuric acid, evaporate the filtrate to a syrup at a low temperature; and, when the drying has been completed in a desiccator, exhaust with ether, and from the ethereal extract the urochloralic acid crystallises out.

Phenol-, cresol-, and brenzcatechin sulphonic acids are normally present in very small proportions in urine, but in *diabetes* large quantities of *indoxyl- and skatoxylsulphuric acids* have also been found. When they are sufficiently abundant, strong nitric acid will colour the urine red, and ferric chloride will give a deep purple or violet-red tint. In many cases of diabetic urine, Hallervorden has also observed increased quantities of ammonia, and Stadelmann in one case obtained a considerable amount of *crotonic acid.* But, as Minkowsky states, this acid did not exist ready formed in the urine, but was produced from the oxybutyric acid extracted. When this latter body becomes oxidised, it yields acetyl-acetic acid; and this acid, and the acetone frequently met with in the urine of diabetes, are probably thus derived.

The urine voided after the ingestion of balsam copaiba gives a red colour on the addition of hydrochloric acid, and an absorption spectrum of three bands. When the urine is heated, the band in the blue disappears, and the fluid assumes a violet tint. The action is accelerated by the addition of bleaching powder.

The influence of alcohol and of morphine on physiological oxidation has been studied by Sumanowsky and Schoumoff. Adopting Sieber and Nencki's suggestion, the oxidation of ingested benzol to phenol was taken as a measure of the systemic oxidation. The elimination of phenol lasts from two to four days. In the case of a dog which normally excreted 0·283 to 0·248 gramme of phenol for every gramme of benzol ingested, the administration of 0·3 gramme of alcohol per kilogramme of body-weight reduced the elimination to 0·165 gramme; while an increase in the alcohol to 3·01 grammes per kilogramme reduced the phenol eliminated to 0·125 gramme. On the other hand, the administration of 0·02 gramme of morphine hydrochlorate per kilogramme increased the phenol to 0·309 gramme. In a man, aged 27, two grammes of alcohol per kilogramme of body-weight reduced the elimination of phenol, after the ingestion of two grammes of benzol, from 0·82 to 0·33 gramme. The morphine therefore seems to increase the oxidising powers of the system, while alcohol correspondingly decreases them. The quantity of urea excreted appears also to be diminished by alcohol, although the excretion of urea cannot be taken as a measure of organic oxidation. Diminished oxidation, produced by constriction of the air-passages, which increases the elimination of urea, lessens the amount of benzol oxidised to phenol in the system. In none of these cases, it may be said, could more than traces of the alcohol ingested be discovered in the urine.

Plaster filters separate the albumen from urine; but, if the filtration be continued for a sufficient time, the pores become saturated with the albumen, and permit albuminoids to pass. The plaster forms combinations with certain albuminoid substances, but in removing colloids from liquids the action is mechanical, by virtue of its capillary structure. Plaster filters likewise separate any micro-organisms present, as also ferments generally, whether organised or soluble. Porcelain filters, it may be said, are not open to this objection.

The opportunity may here be taken to refer briefly to an *artificial colloid closely resembling* *albumin*, which Professor E. Grimaux has succeeded in obtaining by the action of phosphorus pentachloride on metamidobenzoic acid. When the mixture is heated for some time a residue is left, which is readily reduced to a white friable powder; it is then to be moistened with ammonia, when it swells and dissolves slowly, forming a liquid that filters with difficulty. Evaporated *in vacuo*, it dries up into a yellowish translucent mass, closely resembling serum-albumin in appearance as well as in most of its reactions. T. CRANSTOUN CHARLES, M.D.

ARTICLE 5036.

HALLIBURTON ON THE PROTEIDS OF SERUM.

THE proteids of serum are generally regarded as two in number. One of them is known as paraglobulin, serum-globulin, or fibrinoplastin, and the other as serum-albumin or serine. This paper (*Journal of Physiology*, No. 3, vol. v.) deals chiefly, first with the temperature of heat-coagulation of these proteids, especially of serum-albumin; and, second, with their precipitation by means of certain salts.

Hammarsten states that the temperature of heat-coagulation of serum-globulin varies between 68° and 80° C., the average being 75° C.; and the same average is given by Frédéricq, while Hoppe-Seyler gives that of serum-albumin as 70° to 73° C.

A process of fractional heat-coagulation was adopted, and great care was taken to make the comparison and examinations under as nearly similar conditions as possible. In order to obtain complete precipitation at any given temperature, the liquid was always rendered faintly acid; and to obtain complete precipitation at any given temperature, it was kept at that temperature for at least five minutes. The mistake of taking a dense opalescence for a precipitation was also carefully guarded against. The fractional heat-coagulation process was applied to serum in a twofold way—to serum itself, and to the filtrate after the separation of the globulin by saturation with magnesic sulphate. The precipitate, after being well washed with a saturated solution of the sulphate, was then dissolved in distilled water. Two solutions were thus obtained, one of serum-albumin in saturated solution of sulphate of magnesia, and the other of serum-globulin in weak magnesic sulphate. To each of these, the same process of fractional distillation was applied as with the serum itself. As the result of these experiments, the author concludes that the albumin of serum is not a single proteid, but consists of three separate proteids, coagulating at the temperatures of about 73°, 77°, and 84° C. respectively.

TEMPERATURE OF COAGULATION (CENT.).

Fibrinogen.	Serum-globulin	Serum-albumin		
		α	β	γ
Dog-plasma, 56°	75°	70–73°	77°	82°
Dog-serum	75°		77°	85°
Man-serum	74°	73°	74°	84–85°
Monkey-plasma, 56°	75°	69°	77°	84°
Monkey-serum	76°		77°	84°
Pig-serum	75°	72–73°	77°	84°
Rabbit-plasma, 56°	75°	73°	77°	84°
Rabbit-serum	76°		77°	84°
Horse-serum	75°	—	77°	84°
Ox-serum	75°	—	77°	84°
Sheep-serum	75°	—	77°	84°

While in some animals, as seen in the above table, the serum-albumin can be differentiated into three proteids, in others, as the horse, ox, and sheep, only two of these are present. The amount of albumin-coagulum at the higher temperature appears to be considerably less than that coagulating at a lower temperature.

The conclusions drawn from experiments made to ascertain the effect of the presence of acids and of alkalies upon the coagulation-point are as follows. [On p. 164 the number 73 is surely a *lapsus* for 64, as expressing the number of grammes of oxalic acid to be dissolved in the preparation of the normal solution.]

If the liquid be alkaline, the precipitate, if it appear at all, is not flocculent, and its separation is incomplete, the temperature, however, varying but little with the amount of alkalinity; if the liquid be only faintly acid, much the same result is obtained; but with a greater degree of acidity, up to a certain point, precipitation is complete and filtration easy, the coagulation-point falling slightly, the greater the amount of free acid present; while, with a still greater degree of acidity, the precipitation may at last occur in the cold.

As to the precipitation of albumin by certain salts, the author confirmed Hammarsten's statement that magnesic sulphate is a sure agent for separating the serum-globulin completely from serum; but the saturation with the sulphate is not effected until it has been added in excess and well shaken for at least three hours.

For globulin solutions containing 1 per cent., this salt may be used as a qualitative test by pouring the globulin solution upon a saturated magnesic sulphate solution in a test-tube, when a white cloud will appear at the line of junction of the liquids. Globulin, as we have seen, is precipitated from serum by saturation with magnesic sulphate, and the serine is likewise precipitated by the same salt if the filtrate be subsequently saturated with sodic sulphate, this being due to the formation of a double salt, sodio-magnesic sulphate. Sodic nitrate acts like the sulphate in precipitating the globulin; but if the globulin have already been separated from serum by means of the sulphate, a subsequent saturation of the filtrate with the sodic nitrate will throw down the serum-albumin, this also being possibly due to the formation of a double salt.

Ammonia-alum serves as a very ready and rapid precipitant of serum-albumin after the globulin has been removed by magnesic sulphate. Sodic carbonate and acetate likewise both separate globulin from serine by precipitation. Sodic chloride, when added to serum, produces an abundant precipitation; but, when added after the globulin has been removed by saturation with magnesic sulphate, no precipitation occurs. It should be noted, however, as Hammarsten has pointed out, that the precipitation of globulin by the chloride is not complete. Potassic acetate and phosphate were also found to separate the proteids from serum in uncoagulated form; and calcic chloride in an insoluble form.

T. CRANSTOUN CHARLES, M.D.

DR. SUTCLIFFE HILL, of Saxton's Hill, Vermont, communicates the following prescription for corns to the *New England Medical Monthly*:—℞ Extract of cannabis Indica, 15 grains; salicylic acid, 30 grains; collodion, ℥j. Apply with brush. He has found it very efficacious in removing those troublesome excrescences.

SURGERY.

RECENT PAPERS.

5037. King.—A Case of Wound of the Vertebral Artery. (*Lancet*, Nov. 1885, p. 993.)

5038. Phillips.—Graves's Disease Cured by Galvanism. (*Brit. Med. Jour.*, Nov. 1885, p. 964.)

5039. Hutchinson, Jonathan, jun.—Sprains of the Elbow in Children. (*Annals of Surgery*, Aug. 1885.)

5040. Neve.—Osteotomy in Extensive Deformity after a Burn. (*Lancet*, November, p. 896.)

5041. Rivington.—Wound of the Left Common Carotid Artery by a Fish-bone. (*Brit. Med. Jour.*, October, p. 832.)

5042. Voskresenski.—Cases of Large Urethral Calculus. (*Lancet*, October, p. 634.)

5043. Meyer.—Cure of a Lingual Ulcer of Long Standing by Galvanism. (*Deutsche Med. Wochensch.*)

5044. Ferrari, A.—Experiments on the Transplantation of Bone. (*El Siglo Medico*, Nov. 22, 1885.)

5045. Fargin and Assaki.—Regeneration of Tendons.

5046. Englisch.—Albuminuria in Strangulated Hernia. (*Centralbl. für Chir.*, Nov. 1885.)

Art. 5037. *King on a Case of Wound of Vertebral Artery.*—In the *Lancet*, Nov. 1885, p. 993, Dr. King records the case of a young man, aged 25, who received a deep wound below the left mastoid process. On examination, it was found that some large artery was wounded, and immediately the wound was enlarged so as to admit the finger. One of the transverse processes was fractured; and, by placing the tip of the forefinger between the two transverse processes, the hæmorrhage was controlled. The whole cavity was then firmly and evenly plugged with strips of oiled lint, a graduated compress applied over all, and a grain of opium given every six hours. On the third day the temperature rose to 103° F., and to 104°·6 F. on the sixth day, but on removing the plug no hæmorrhage occurred, and there was no return of pyrexia. The patient made a perfect recovery in about four weeks from the time of the accident. [In the London Medical Record, 1884, p. 110, a similarly successful case of this injury is recorded.]

5038. *Phillips on Graves's Disease Cured by Galvanism.*—In the *Brit. Med. Jour.*, Nov. 1885, p. 964, Dr. Leslie Phillips records the case of a delicate lady, whose health broke down after several weeks' nursing. When seen by the author she suffered from cephalalgia and vomiting, with constant palpitation night and day. She spent her time in bed or on a sofa. The pulse ranged from 160 to 180 per minute. She was treated alternately with purgatives, digitalis, belladonna, bromide of potassium, and iron, without relief. On Aug. 15, galvanism was begun. The battery was applied for ten minutes every day for six weeks; at the end of this time she was so much better that the applications were only applied twice a week for a few days; then the patient went into the country. The author considers the case to have been one of Graves's disease. [That galvanism has a directly curative action in Graves's disease appears to be proved by the numerous cases recorded in sect. 1838 : 3 of the *Medical Digest*, besides several other cases that will appear in the Appendix.—*Rep.*]

5039. *Hutchinson on Sprains of the Elbow in Children.*—In the *Annals of Surgery*, Aug. 1885, Mr. Jonathan Hutchinson, jun., contributes a paper 'On Certain Obscure Sprains of the Elbow in Young Children.' The author has made several experiments on the dead body, and found that the orbicular ligament of the radius had slipped up, with or without rupture of the suborbicular membrane. For reduction he advises flexion of the elbow and pronation of the hand, when the ligament again slips down into its right place. The accident only occurs in children under six years old, and is invariably produced by raising them sharply or dragging them by the arm, the hand being in a condition of supination. Mr. Hutchinson is the first surgeon who has been able to settle the exact nature of this lesion. He has also put forth his views on the subject in the *British Medical Journal* of Jan. 2, 1886.

5040. *Neve on Osteotomy in Extensive Deformity after a Burn.*—In the *Lancet*, November 1885, p. 896, Mr. Neve records the notes of a case of a Kashmiri girl aged 10, who had been severely burnt in the arm three years previously. When admitted into hospital, the hand was fixed to the shoulder by a web of cicatricial tissue, extending from about two inches below the acromion to the styloid process of the radius. There was also a large indolent ulcer over the elbow. The author decided to perform the following operation. The ligaments of the elbow joint were cut through, and the periosteum stripped from the lower three inches of the humerus, and the bone removed for that distance. The proximal four inches of both radius and ulna were then removed in the same manner. The ends of the humerus and ulna were fixed by wire sutures, and the incision closed. The deep incision healed by first intention. In five weeks the elbow became firm, and powers of flexion, extension, pronation, and supination, began to be exhibited. The patient recovered with an useful and scarcely deformed limb.

5041. *Rivington on a Case of Wound of the Left Common Carotid Artery from a Fish-bone Swallowed.*—In the *Brit. Med. Jour.*, October 1885, p. 832, Mr. Walter Rivington records the case of a boy aged 9 years, who was admitted into hospital. Six days before admission, he had swallowed a plaice-bone. When admitted, his symptoms were pyrexia, stiffness of the neck, œdema of the upper eyelids, profuse salivation, and a small tender lump on the left side, opposite the cricoid cartilage. Three days afterwards, he had two attacks of hæmorrhage from the mouth. Mr. Rivington diagnosed wound of the left carotid artery from penetration of the fish-bone, and immediately cut down and tied the artery above and below the seat of injury. The fish-bone was found in the centre of a clot. The patient lived ten days after the operation, dying from abscess of the brain on the left side, which had probably begun to form before the operation.

5042. *Voskresenski on Cases of Large Urethral Calculi.*—In the *Lancet*, October 1885, p. 634, attention is drawn to two cases of urethral calculi described by Voskresenski. The first patient was a young man, aged 17, who was suffering from strangury and uræmia. Immediately within the anus a firm tumour could be detected by the finger. This man died from uræmia. On *post mortem* examination, a calculus was found 2⅝ inches long and 1¾ inches in diameter, situated half in the bladder and half in the prostate. The second case was that of a young man aged 18, who had a tumour of the scrotum, which had gradually increased in size from childhood. This man suffered from hæmaturia and strangury. A calculus was detected in the neck of the bladder. This was extracted, and weighed ten ounces. It was situated in a cavity communicating with the urethra. RICHARD NEALE, M.D.

5043. *Meyer on Cure of a Lingual Ulcer of Long Standing by Galvanism.*—At a session of the Berlin Medical Society (*Deutsche Med. Wochensch.*), Dr. Moritz Meyer introduced a patient, in whose case he had completely cicatrised an ulcer of the tongue of nine years' standing by the application of the anode of a galvanic current. The woman, aged 51, had during labour bitten her tongue in so shocking a manner, that no treatment had been successful. For years she had been able to take only liquids, and the pain was so great as to 'nearly drive her mad.' This occurred in June 1876. In June 1884, she applied to Dr. Meyer. The latter found, besides various superficial fissures, an ulcerated grooved surface penetrating the tissue, more or less extending from near the tip parallel with the sides to the root, as well as other ulcerated surfaces to the right and left of the tip, which was itself completely fissured. The woman was made to hold the larger cathode in her hand, whilst a narrow anode was brought to touch the various sores on the tongue for about half a minute, the current being strong enough to be perceptible without being painful. The result was so soothing for several hours, and the appearance of the tongue improved so much, the more superficial ulcers appearing to be cicatrising, that Dr. Meyer determined to continue this treatment. At last, after 190 such applications, the woman was completely cured, being able to eat solid food without pain, her utterances being distinct and her sleep sound. Dr. Meyer invites laryngologists to test this process, which they would be able to localise, and the strength of which they could modify at any moment by varying the number of elements.

JOHN ELLIOTT.

5044. *Ferrari on the Transplantation of Bone.*—Dr. Ferrari arrives at the following conclusions. 1. Pieces of bone inserted in the diaphyses of long bones may become completely united to them, and continue to live. 2. They not only continue to live, but also grow. 3. The insertion of bone gives results in whatever position the piece of bone is applied. 4. The re-union or grafting takes place by a true vascularisation, which forms between the piece inserted and that to which it is applied. 5. Around the piece inserted, a bony, periosteal, and medullary callus is formed. 6. As in a fracture, this callus has only a temporary vitality. 7. After the lapse of a certain time, the periosteal and medullary callus is reabsorbed, and the engrafted bone is only to be recognised by its greater vascularity. 8. The grafting takes place whether the piece inserted be completely adapted to the margin of the wounded bone or not; but in the latter case a longer time is required for union. 9. For successful insertion a rigorous antisepsis is necessary. 10. A favourable result is obtained even when the smallest pieces are inserted. 11. In the case of insertion of small pieces of bone, if partial suppuration of the wound occur, some small pieces may yet adhere if the suppuration do not extend to the parts of the bone inserted which touch the medulla. 12. For the complete success of the insertion, apart from antiseptic medication, moderate pressure must be employed to maintain contact between the medulla and the piece of bone transplanted.

G. D'ARCY ADAMS, M.D.

5045. *Fargin and Assaki on the Regeneration of Tendons.*—MM. Fargin and Assaki, in order to discover the best surgical means of obtaining the regeneration of tendons which have been shortened either by injury or by an operation, tested on animals the method tried by Gluck on the human subject, of joining two portions of tendon by a bridge formed of several threads of catgut. They excised a piece of the tendon of Achilles, observing all the antiseptic rules for ensuring reunion by first intention. After the operation, the animal did not walk quite naturally; it dragged the foot slightly. Forty-nine days subsequently the animal was killed, and it was seen that the catgut was replaced by a fibrous formation, which resembled that of the tendon without being a true tendon. Another animal, operated on in the same way, was killed one hundred days later; it showed that the newly formed tendon was further advanced in structure. In both animals the catgut threads were absorbed, and had evidently directed and facilitated the regeneration of the tendon. These experiments encouraged MM. Fargin and Assaki to extend their experiments. They again excised portions of the tendon of Achilles, and, instead of filling up the hiatus with catgut thread, they grafted on fragments of tendon taken from other animals of the same kind. In another series of experiments, they grafted fragments of tendons removed from animals of other species. On rabbits they grafted tendinous portions removed from sheep, dogs, ducks, fowls, turkeys; on sheep, dogs, &c., tendinous portions removed from other animals. By these means the experimentalists observed that reunion by first intention took place, notwithstanding the difference of species and of organisation. These experiments evidently indicate that surgery has a valuable aid in animal grafting. When in human subjects there is loss of tissue, and reunion by first intention is impossible, grafting should always be done from the tendons of animals nearest to man in the animal scale. It is also of the highest importance, that the most rigorous antiseptic measures should be observed.

5046. *Englisch on Albuminuria in Strangulated Hernia.*—J. Englisch, in the *Centralbl. für Chir.*, Nov. 1855, publishes the history of twenty-nine cases of strangulated hernia treated by taxis, and of twenty-five operated on. In the first series he found albuminuria ten times in the urine, in the second twenty-two times. In thirteen cases of hernia, accompanied by inflammation, albuminuria appeared twice. Albuminuria appears as soon as intestinal occlusion reaches a certain period, and presents certain lesions; the more marked is strangulation, the more evident is albuminuria. In partially strangulated hernia it is barely present. When the omentum and appendices are strangulated, or a filled hernial sac is inflamed, albuminuria is altogether absent. When there is gangrene of the intestine, albuminuria is very evident; it decreases slightly after operation. In fatal cases it is more abundant. Urine decreases in proportion as albumen increases. Englisch attributes death in strangulated hernia to renal disturbance, in those cases where the necropsy does not furnish any indication. The presence of albumen precludes any but a slight attempt at taxis, and herniotomy ought to be preferred. W. VIGNAL.

DR. TRASTOUR, of Nantes, treats obstinate cough with glycerine vapour. Five or six grammes of this liquid placed in a china capsule are heated over a spirit lamp. A quantity of vapour is given off, the inhalation of which greatly relieves phthisical patients.

MEDICINE.

RECENT PAPERS.

5047. HOLM.—Persistent Constipation. (*Lancet*, Dec. 1885, p. 1124.)

5048. PAVY.—The Clinical Aspect of Glycosuria. (*Brit. Med. Jour.*, Dec. 1885.)

5049. PALM.—A Case in which Four Tapeworms co-existed in One Person. (*Lancet*, Nov., p. 991.)

5050. PETCH.—A Case of Abscess of the Lung produced by Swallowing a Piece of Grass. (*Brit. Med. Jour.*, Nov. 1885, p. 1015.)

5051. TEALE, J. W.—Two Cases of Rectal Trouble Complicating other Ailments. (*Med. Times and Gazette*, Nov. 1885, p. 732.)

5052. BULKLEY.—Asthma as Related to Diseases of the Skin. (*Brit. Med. Jour.*, November, p. 958.)

5053. OLIVER, JAMES. —Cirrhotic Enlargement of Liver in a Female. (*Brit. Med. Jour.*, Oct., p. 786.)

5054. HARTLEY.—Hæmorrhagic Amblyopia cured by Dilatation of the Sphincter Ani. (*Med. Times and Gazette*, November, p. 733.)

5055. VONGRODSKY, J. A.—On a Case of Intestinal Obstruction, of Five Days' Standing, Cured by Effervescent Enemata. (*Proceedings of the Eastern Siberian [Irkutsk] Medical Society*, 1885, p. 100.)

5056. ROMERO.—Abscesses of the Concavity of the Liver. (*El Monitor Medico*, Sept. 1, 1885.)

5057. MACEDO, J. M.—Verruga Peruviana. (*El Monitor Medico*, Oct. 1 and 15, 1885.)

5058. PEREZ VALDÉS, R.—Intravenous Injections in Cholera. (*Boletin de Med. y Cirurg.*, and *El Siglo Medico*, Dec. 13, 1885.)

5059. Preventive Inoculation of Yellow Fever. (*El Siglo Medico*, Dec. 13, 1885.)

5060. MURGA, L.—Ferran's Anticholera Inoculations. (*El Siglo Medico*, Nov. 8, 1885.)

ART. 5047. *Holm on Persistent Constipation.*—In the *Lancet*, Dec. 1885, p. 1124, Mr. J. Holm records a case of persistent constipation treated by medical gymnastics. A gentleman, aged 24, came to the author complaining of most obstinate constipation, which had lasted for five years, in spite of various kinds of treatment. He attended daily for four months at the author's gymnasium. The first fourteen days passed without any action of the bowels. On the fifteenth day, a scanty relief was obtained by the help of an enema, and in a few days a stool was passed without the aid of an enema. The motions then occurred naturally at intervals, first of ten, then of eight days. The intervals gradually diminished, and, at the end of the third month, the bowels were perfectly regular. Some months afterwards, the patient reported himself as being wonderfully well, the bowels acting like 'clockwork.' The various exercises used consisted chiefly in passive and active movements, with firm and deeply directed frictions and vibrations acting on the abdominal viscera.

5048. *Pavy on the Clinical Aspect of Glycosuria.*—In the *Brit. Med. Jour.*, Dec. 1885, Dr. Pavy remarks that cases of diabetes occur when the sugar entirely disappears from the urine, even though the patient be not under a restricted diet. In some cases, sugar may be present for a few hours only; one instance is noted in which a gentleman passed a quantity of sugar after having eaten marmalade, the glycosuria being due, no doubt, to the food containing more sugar than was able to be eliminated. Diabetes insipidus and mellitus may exist together. A patient passing large quantities of urine, out of all proportion to the amount of sugar present, may be put upon diabetic diet, and the sugar will entirely disappear, but still an excessively large quantity of urine is passed. A case is noted where diabetes mellitus was followed by diabetes insipidus, the latter ultimately disappearing. With regard to the physical condition of organs in this disease, Dr. Pavy has found hypertrophy of the liver in a sufficient number of cases to warrant the supposition that there is some connection between the two. So many cases of ataxia are associated with diabetes, that there seems to be also a connection between them. Sometimes they come on together, sometimes the ataxia precedes the diabetes, or *vice versâ*. Sometimes pains and manifestations of perverted sensibility are noticed without ataxia. Another disease seen in connection with diabetes is exophthalmic goître. Dr. Pavy does not believe in the theory of 'acetonæmia,' but believes that the comatose condition arises from a deprivation of power in certain nerve-centres, and thus fatigue or anything which tends to throw the patient off his balance will produce it. It is not due, therefore, to any direct poison in the blood. Acetonæmia is usually ushered in by a rapid pulse and a peculiarity in the breathing. The patient becomes drowsy; this deepens into a comatose state, terminating in profound coma and death. The presence of fat in the blood of diabetic patients is stated by Dr. Pavy to be a purely physiological condition, accounted for by the great amount of food they take, and the fatty nature of a large proportion of it. Albuminuria may co-exist for years, and when there is only a small amount of albumen in the urine it does not signify. Some cases go on, however, to well-marked Bright's disease; and generally, as this becomes established, the diabetes shows a tendency to subside.

5049. *Palm on a Case in which Four Tapeworms co-existed in One Person.*—In the *Lancet*, Nov. 1885, p. 991, Dr. T. A. Palm records the case of a German resident in Japan, who had suffered from tapeworm for over twelve years. Eighty minims of the ethereal extract of male fern were ordered to be taken after twenty-four hours' fast. Soon after taking the dose, he brought the author two heads and a large quantity of segments of tapeworm. Upon examining these, it was found that the segments belonged to more than two worms. The patient would not believe this, and did not take any more medicine. After some weeks, however, he again sought advice, and took another dose of the male fern. This time, only one head came away, with a number of segments. Later on, he was again obliged to resort to treatment, which resulted in bringing away a fourth head.

5050. *Petch on a Case of Abscess of the Lung produced by Swallowing a Piece of Grass.*—In the *Brit. Med. Jour.*, Nov. 1885, p. 1015, Dr. R. Petch relates the case of a little girl, aged 3½ years, who was subject to attacks of bronchitis. One day she was in the fields with her mother, who suddenly noticed that the child was choking, owing to a piece of grass behind her tongue; but, in consequence of the child's struggles, she was unable to get hold of it, and it seemed to be swallowed. For the next two or three days the child had a constant dry cough, and complained of her throat burning, with pain in the stomach. The cough continued for some days, but became less frequent. The child, however, began to lose flesh, and complained of headache and thirst. The pulse quickened to 130, and over the whole of the left lung posteriorly râles could be heard. A few days later, she began to expectorate muco-purulent sputum; this soon became quite purulent, and very offensive. About six weeks after the first onset of symptoms, she coughed up a small piece of grass. A few days later, a projection was noticed between the fifth and sixth ribs in the axillary line; this gradually increased in size and burst, discharging a good deal of offensive pus, in which was found a piece of grass about an inch and a half long. After this the abscess gradually healed, and some weeks later the child was able to be removed to the seaside. [A somewhat similar case is reported in the *Lancet*, Jan. 1880, p. 89.—*Rep.*]

5051. *Teale on Two Cases of Rectal Trouble Complicating other Ailments.*—In the *Med. Times and Gazette*, Nov. 1885, p. 732, Mr. J. W. Teale records two interesting cases of rectal trouble. The first is that of a young man, aged 30, who was suffering from constant cough, night-perspirations, and loss of weight. It was feared that phthisis was threatened. In conjunction with Dr. Clifford Allbutt, it was ascertained that the patient had suffered for years from obstinate constipation, with painful defecation, for which he had been in the habit of taking powerful cathartics. On examining the bowel, a painful fissure, and an extremely tight sphincter, were found. The patient was put under ether, the sphincter was freely stretched, and he was kept in bed for ten days on slop diet. In a fortnight the bowels acted without pain, the cough was nearly well, and the night-sweats had gone. The patient soon made a complete recovery. The second patient was a clergyman, aged 50, who had been sent down to the seaside to brace up his shattered nerves. When seen by the author, he was a complete wreck. He complained of excruciating pains in his feet when he walked; he had constant diarrhœa, accompanied by severe hæmorrhage and pain. On examining the patient under ether, it was found that the sphincter ani was in a state of intense and acute spasm, grasping tightly some inflamed internal piles. The sphincter was freely dilated, and the piles were left to shrivel when the constriction was removed. The motions were afterwards passed without pain, and the patient was relieved as far as the trouble with the bowels went. By the aid of massage and salt baths he was gradually able to walk, and six months after the operation he returned to his duties in perfect health.

5052. *Bulkley on Asthma as related to Diseases of the Skin.*—In the *Brit. Med. Jour.*, November 1885, p. 958, Dr. Duncan Bulkley, of New York, contributes a paper on asthma as related to diseases of the skin. The term asthma expresses a definite condition of the bronchial tubes, spasmodic in its nature, nervous in origin, generally without discoverable pathological changes, but exhibiting clinical features of a decided and almost uniform character. The occurrence of asthma in connection with, or in those suffering from, diseases of the skin, may be looked upon in three lights: 1st, as a coincidence; 2nd, occurring as a secondary condition due to a reflex irritation from the skin; 3rd, they may both develop from the same cause, which may be either (*a*) nervous, or (*b*) hæmic. The latter source seems to suggest itself to the author as being the most reasonable. It is well known that the nervous element of many diseases of the skin is very striking, and it is quite conceivable that in certain instances a nervous cause may at one time induce a disease upon the skin, and at another may excite spasmodic irritation in the bronchial tubes. A careful clinical study of asthma shows that there is a close relationship between it and skin-affections, as regards the conditions of the systems associated with the affections—viz., dyspepsia, constipation, urinary and hepatic disturbances, &c. The paper concludes with the following deductions. 1. Asthma has been observed in patients with certain diseases of the skin, in such a manner as to indicate some occasional relationship between the two. 2. Asthma does not occur in more than about 1 per cent. of patients with diseases of the skin. 3. This occurrence of asthma in skin-patients cannot be looked upon as a coincidence, nor is the skin-disease to be regarded as a cause of the asthma; but both the skin and the bronchial difficulty depend upon the same internal cause, which may be nervous in origin, or may result from some altered condition of the blood.

5053. *Oliver on Cirrhotic Enlargement of the Liver in a Female.*—In the *Brit. Med. Jour.*, Oct. 1885, p. 786, Dr. James Oliver records the following case. A woman, aged 28, married ten years, no children, noticed a slight increase in the size of the stomach about four months before she came under treatment. The catamenia had always appeared regularly until about the time the swelling commenced. Lately the patient complained of sickness after meals, and a constant feeling of lassitude. She had lost flesh for the last twelve months, and at times suffered pain in the region of the liver, and under both shoulder-blades. Headache had been frequent for the last two months, and there had been diarrhœa. The patient's habits had been intemperate; she had taken two pints of beer daily, besides some spirits. The liver was uniformly enlarged, measuring nine and a half inches in the nipple-line, and five below the ribs; the lower margin, hard and regular, was felt below the umbilicus. The urine was thick, and of a deep colour; it contained lithates, bile-pigment, and a trace of albumen.

5054. *Hartley on Hæmorrhagic Amblyopia cured by Dilatation of the Sphincter Ani.*—In the *Med. Times and Gazette*, Nov. 1885, p. 733, Mr. R. N. Hartley records a case which illustrates the serious amount of amblyopia liable to be produced by frequently recurring hæmorrhages extending over a long period of time, and the value of free dilatation of the sphincter ani under ether. A man consulted the author on account of gradual loss of sight. Nothing could be detected to account for this, except a slight pallor of the discs. Mr. Hartley suspected his patient was suffering from loss of blood in some way or other, and found that for years he had never obtained an action of the bowels without loss of blood, which was often profuse. The patient was then examined under ether, and was found to have an enormously powerful sphincter ani; the internal fibres were like rigid rings extending for some distance up the bowel. The rigid sphincter was freely stretched with the fingers, until all sense of resistance had ceased. The swollen mucous membrane was seen to be covered with irregular ulcerated patches, which had no doubt caused the hæmorrhage. Three days after the operation, the bowels acted without medicine and without bleeding. Six weeks later, the patient was quite well, the bowels acted every morning without medicine, and the sight soon became perfectly restored.

RICHARD NEALE, M.D.

5055. *Vongrodsky on Effervescent Enemata in Intestinal Obstruction.*—Dr. J. A. Vongrodsky, of Irkutsk, details a case (*Proceedings of the Eastern Siberian* [*Irkutsk*] *Medical Society*, 1885, p. 100) of intestinal obstruction of five days' duration, where, after complete failure of purgatives and large enemata, the author resorted to effervescent injections repeated at intervals of several hours. After a few enemata, the patient passed a liquid stool, tympanites and fæcal vomiting ceased, and complete recovery followed. The enemata consisted as usual of two injections successively administered, one of them being made of a solution of three teaspoonfuls of tartaric acid in a glassful of water, and another of a solution of four teaspoonfuls of bicarbonate of soda in the same quantity of fluid.

V. IDELSON, M.D.

5056. *Romero on Abscesses of the Concavity of the Liver.*—In a clinical lecture, Dr. Romero gives several cases of abscesses of the liver, with interesting remarks on prognosis and treatment. In abscess opening by the bronchi, he says, prognosis is more favourable than when the abscess opens into the intestine. When the opening takes place spontaneously, the result is almost invariably fatal. Abscesses of the concavity of the liver are more fatal than those of the convexity, as might be supposed from the relations of the organ, which also account for the variety of the symptoms in these cases—such as piles, hæmorrhage, jaundice, deformity of the abdomen, œdema of the lower limbs, vomiting, indigestion, diarrhœa, the possibility of the abscess opening into the stomach, duodenum, transverse or ascending colon, or peritoneum. These abscesses may descend much, invading regions more or less remote, and show themselves in the superior part of the right iliac fossa, thus sometimes rendering the diagnosis very puzzling. Diagnosis is much more difficult in abscess of the concavity than in abscess of the convexity of the liver; in cases of subacute and chronic hepatitis especially. As soon as the existence of an abscess is made out, exit should be given to the pus. The cannula used should be of large size, as the pus is generally thick and grumous. The abscess should then be washed out with warm water, and, except in recent cases, iodine should be injected, and allowed to flow out again. The puncture should generally be repeated in eight days. If the quantity of pus be then smaller, and less thick and grumous, a favourable termination may be expected. The puncture may be even repeated a third time; but, if the symptoms indicate that the abscess does not tend to improve, it is better to favour the development of the adhesions initiated already at the points corresponding to the former punctures, and by the application of Vienna paste to procure an extensive longitudinal eschar. Afterwards the abdominal wall is to be divided as freely as possible, taking care that the incision do not pass the limits of the adhesions formed between the walls of the abscess and the abdomen. By this method only is there probability of arresting the extension of these abscesses and of the gangrene which frequently accompanies them.

5057. *Macedo on Verruga Peruviana.*—One of the first acts of the Academia Libra de Medicina, of Lima, has been to appoint a commission to study the Verruga Peruviana, a disease peculiar to Peru, and which appears intimately connected with the so-called fiebre de la Oroya, which proved fatal some years since to many of the labourers engaged on the Transandine Railway, and of which sporadic cases are still occasionally seen. The *Monitor Medico*, of Oct. 1, reports the sad death of a student of medicine, Daniel A. Carrion, due to self-inoculation with the blood from a verruga. On August 27 last, while in perfect health, and residing in the capital, he inoculated himself with blood taken from a verruga in the atrophic stage. After twenty-two days of incubation, the fever began with all its characteristic symptoms, causing his death on the thirty-ninth day from inoculation. His case is promised in detail in a future number. The verruga is endemic and peculiar to Peru; in certain localities it is especially prevalent, notably in the hill district of Huarochiri. The popular belief is, that it is caused by the drinking water. The period of incubation may vary from two or three weeks to a year, the appearance of the eruption being preceded by prolonged muscular and articular pains. During the progress of the Transandine Railway (Ferro carril de la Oroya) a severe pyrexia, which it was not possible to refer to any known nosological group, caused immense loss of life among the workmen; the fever was hence called Fiebre de la Oroya, from the locality in which it occurred, or Fiebre anemizante, because anæmia was the most constant and grave symptom. Medical men differed as to its cause; some attributed it to a miasmatic origin, since it appeared during the digging and removal of the soil; others, because the verruga prevailed in the same localities, thought that the virus, united or combined with the miasma, was the determining cause. Dr. Macedo maintained some years since (*Gaceta Medica*, Nos. 21 and 23, 1875) the etiological unity of verruga and Fiebre de la Oroya. That this theory is the right one the unfortunate student, Daniel Carrion, has proved at the sacrifice of his life. From his case, the following points seem to be established. 1. The dermatosis known as Verruga Peruviana is a general infectious disease. 2. It is inoculable, and is due to a micro-organism. 3. The period of incubation may be long; in Carrion's case it was three weeks. 4. The incubation before giving rise to the dermatosis may occasion an adynamic pyrexia of fatal prognosis, with all the symptoms of a profound alteration of the blood (leucocytosis or leucocythæmia).

5058. *Valdés on Intravenous Injections in Cholera.*—In the *Boletin de Med. y Cirurg.* for Dec. 13, Dr. Ricardo Perez Valdés publishes an interesting article on intravenous injections in cholera. He gives 46 observations, treated during the months of August and September in the Hospital del Sur of Madrid, with the following results: women, 19; died, 12; cured, 7; or 36·8 per 100; men, 27; died, 20; cured, 7; or 25·9 per 100. Dr. Perez Valdés comes to the following conclusions. 1. The intravenous injections of a sodic chloride-sulphate solution have always been harmless to the patient; in no case could any manifestly prejudicial influence on the course of the disease be attributed to them. 2. Of 46 patients so treated, one only suffered from phlebitis, which, however, presented no alarming symptoms; the small calibre of the vessel, and the consequent injuries caused by the introduction of the cannula, were the exceptional causes of this phlebitis. In the other cases no harm ensued, notwithstanding that two or three injections were occasionally made in the same arm. 3. A third of the patients submitted to this treatment recovered, though at the moment of operation their cases seemed absolutely hopeless. 4. The immediate effects of the operation were always surprisingly favourable, so that Dr. Perez Valdés cannot understand how Gougenheim and others have had to renounce the injections from the terrible effects which they observed. 5. In all cases, life was prolonged for a longer or shorter time. 6. The convalescence of patients after injection was generally more rapid and less exposed to accidents than that of those not injected. 7. The treatment by intravenous injections must be considered as the most rational of the methods proposed in the algide period of cholera. It is possible that there may be at present some technical imperfections which diminish its good effect; but Dr. Perez Valdés believes that no physician can afford to ignore this method in the treatment of the algide stage of cholera, and that the objection made by some, that in practice it offers some difficulties of application, is not sufficient to invalidate its merit.

5059. *Preventive Inoculation of Yellow Fever.*—According to the *Siglo Medico* of Dec. 13, Dr. Meyrignac, of Panama, is inoculating for yellow fever, which is very prevalent among the workmen and employés of the Canal Company. Like Dr. Carmona, he employs the sediment of the urine of yellow fever patients, which contains the zoöspores of the peronospora lutea, and injects it, dissolved in distilled water, with a Pravaz's syringe. Three hundred Mexicans were inoculated before the epidemic of 1884, and not one has died. Inoculation is generally followed by an abortive attack of yellow fever, the symptoms being benign, slight, incomplete, and of short duration. This modified yellow fever seems to confer complete immunity from a second attack. The Government of Mexico has recommended the practice, despite the opposition of its medical advisers.

5060. *Murga on Ferran's Anticholera Inoculations.*—Dr. L. Murga was commissioned by the provincial deputation of Seville to study on the spot Ferran's inoculations. For this purpose he joined Ferran in the early days of the epidemic, and accompanied him throughout the campaign. His opinion is, therefore, worth hearing. He gives the results of his experience in a paper of 119 pages. He accepts the morphology of the comma-bacillus described by Ferran, and recognises the comma-spirilla, the presence of spores, oögonia, and mulberry-shaped bodies, but has never seen the sudden ejection of the filament of protoplasm, nor the pollinide, nor the oöspheres. The pathogenic power of the commas in animals he regards as clearly demonstrated. Inoculation of a sufficient dose into the subcutaneous cellular tissue of animals produces a marked immunity to succeeding inoculations of even larger doses. Inoculation of a cubic centimètre of a pure cultivation of the comma-bacillus in the posterior region of each arm in a healthy man, produces characteristic local and general symptoms, which, in some cases, have a great analogy with the symptoms of cholera. The liquid employed for the inoculations is a pure cultivation of the comma-bacillus in broth, and the method of its preparation is most simple. Inoculation never gives rise to alarming or dangerous symptoms. He is convinced of the absolute truth of the published statistics, and holds that the problem of anticholera inoculation is solved, and that preventive inoculation must in future hold a pre-eminent place in the prophylaxis of cholera.

G. D'Arcy Adams, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5061. Israel, E.—On Antipyrin. (*Hospitals-Tidende*, Ser. 3, Band ii.; *Nord. Med. Arkiv*, Band xvii., Häft 2.)

5062. Wichmann.—Some Researches on Antipyrin in Typhoid Fever. (*Ugeskrift for Læger*, Ser. 4, Band x.; and *Nord. Med. Arkiv*, Band xvii.)

5063. Malthe.—On a Combination of Iodoform with Nitrate of Silver. (*Norsk Magaz. for Lægevidensk.*, Ser. 3, Band xiv.; and *Nord. Med. Arkiv*, Band xvii.)

5064. Muñoz. A. S.—Caffein. (*La Cronica Medica*, July, Aug., and Sept. 1885.)

5065. Villar and Florez.—Antisyphilitic Hypodermic Injections. (*La Cronica Med.*, Sept. 1885.)

5066. Kappeler.—Death from Chloroform. (*Berliner Klin. Wochensch.*, No. 45, 1885.)

5067. Vulpian.—On Salicylate of Lithia in Rheumatism.

5068. Laborde.—On Aceto-phenon.

5069. Desnos.—The Action of Baptisin, Sanguinarin, Juglandin, and Phytolaccin.

5070. Schultz.—Subcutaneous Injection of Bichloride of Mercury. (*Deutsche Med. Wochensch.*)

5071. Suyers.—Antipyrin in Typhoid Fever. (*Ann. de la Soc. Méd.-Chir. de Liège.*)

5072. Magnan and Juranville.—Boldo-glucine as a Narcotic. (*Paris Médical*, Nov. 21, 1885.)

Art. 5061. *Israel on Antipyrin.*—Dr. Emil Israel, of Copenhagen, describes (*Hospitals-Tidende*, Series 3, Band ii.) the results of the use of antipyrin in thirty-nine cases in the Communal Hospital. Among the cases were 25 of typhoid fever, 7 of pulmonary phthisis, 4 of pneumonia, 1 of angina, 1 of pleurisy, and 1 of septicæmia (?) In typhoid fever, the reduction of temperature varied from 3·6 to 7·2 degrees Fahrenheit, and in one case reached 9·3 degrees. It began from half-an-hour to two hours after the administration of medicine, and the normal temperature was most frequently reached in three or four hours; but it often fell to 97°, and in one case to 95°. Sometimes such a tolerance of the drug was observed, that its action was diminished; in other cases, its action was constant. The remissions of the fever varied from ten to twenty-four hours, in some cases only from six to ten hours. Baths were generally unnecessary. The dose was 5 grammes (about 75 grains) daily, given in three doses, two of two grammes each, and one of one gramme; when the action of the medicine was prompt and powerful, the daily dose was reduced to 3 or 4 grammes; when necessary, it was increased to 6 grammes. To children, 2½ to 4 grammes were given in the day. In phthisis, it was difficult to estimate the value of the medicine, on account of the irregular form of the fever. In pneumonia, a daily dose of 4 grammes reduced the temperature considerably. With the fall of temperature, the tongue often became moist and the countenance brighter; the frequency of the pulse fell, while its tension was simultaneously increased. Antipyrin was excreted in the urine, and could be detected in it by perchloride of iron, which gave a deep brown-red colour; the reaction disappeared thirty-six hours after the last dose. Existing albuminuria was not increased under the use of antipyrin. Occasionally there were nausea and vomiting; diarrhœa or tendency to intestinal discharge of blood was not increased. Profuse sweating was sometimes produced, but could be partially controlled by the simultaneous use of atropine; vomiting and nausea could be prevented by giving the antipyrin in enemata. In fifteen patients a rash was observed, resembling that of scarlatina. In one patient, a girl aged 11, suffering from pneumonia and nephritis, the administration of 4 grammes of antipyrin was followed by a fall of temperature, in a few hours, from 104°·9 to 93° Fahr.; profuse sweating broke out, she became cold, and sank into a state of coma. Wine was given, and warm bottles were applied, and she revived tolerably quickly; the next day the temperature rose to 98°·6 Fahr., and she soon was convalescent. In two cases, under the use of antipyrin, hæmatemesis and general convulsions were observed, but the causal connection was not apparent. One case was that of a man, aged 29, who had fever, jaundice, headache, and vomiting; he had taken 5½ grammes of antipyrin. In the other case, a boy aged 13, with typhoid fever, had taken 48 grammes of antipyrin in eleven days. Fourteen hours after the last dose the temperature again rose, and he had convulsions and hæmatemesis.

5062. *Wichmann on the Use of Antipyrin in Typhoid Fever.*—Dr. Wichmann (*Ugeskrift for Læger*) describes the results of the administration of antipyrin to nineteen patients with typhoid fever in the Communal Hospital at Copenhagen. Its action in reducing temperature appeared to be greatest with the first doses; afterwards, the fall of temperature was less marked. Collapse occurred in five cases; it was serious in two children 11 years old, but the patients recovered. Profuse sweating frequently occurred with the fall of temperature; nausea and vomiting were rather frequent. In three patients, a rise of temperature was attended with rigors. In four patients an exanthem was observed, most resembling that of measles; in one it was hæmorrhagic; it disappeared in spite of the continued use of antipyrin. Impairment of hearing and noises in the ears were not observed; the appetite was diminished. On the whole, Wichmann believes that the reduction of temperature produced by antipyrin is not attended with improvement in the general condition. The course of the disease appears unaffected by the use of this remedy.

5063. *Malthe on a Combination of Iodoform with Lunar Caustic.*—Dr. Malthe has used with benefit, in the surgical department of the Christiania Hospital, a combination of nitrate of silver with iodoform as a caustic and alterative in chronic torpid ulcers and fistulæ. The ulcer or fistula is first sprinkled with powdered iodoform, and then nitrate of silver is applied over the whole surface, and iodoform is again dusted over the part. This is followed by the production, with brisk effervescence, of nitrous acid, insoluble iodide, and chloride of silver, and perhaps, also, nitric acid and other combinations. These different stimulants act on the tissues in the nascent state. The process of decomposition may be represented by the following equation: $CHI_3 + 3(AgNO_3) = 3AgI + HNO_3 + 2NO_2 + CO_2$. A great advantage of the remedy is, that the cauterisation is strictly limited to the soft parts to which it is applied. Fistulæ and ulcers heal under an antiseptic layer of iodide of silver and iodoform, leaving strong cicatrices. The application has been used in the treatment of fistula following resection—*e.g.* of the hip-joint. A fæcal fistula following gangrene in hernia healed in a few days, after two applications, after various other remedies, including iodoform and Lister's dressing, combined with pressure, had been for some time tried unsuccessfully. It will probably also be found useful in cases of chancrous ulcer.

A. HENRY, M.D.

5064. *Muñoz on Caffein.*—In the July, August, and September numbers of *La Cronica Medica*, of Lima, there appears a careful and exhaustive review of the chemistry and the physiological and therapeutic effects of caffein. It is in diseases of the heart that caffein finds its chief therapeutic use, and more particularly in disease of the mitral valve; in lesions of the aortic orifice, caffein is absolutely contra-indicated, whether the effect of the lesion be obstruction or insufficiency, or both together. It sometimes happens, however, and this not unfrequently, that, in consequence of the dilatation of the left ventricle in the second or hypersystolic period, an insufficiency of the mitral valve is produced; in these cases, if the symptoms due to the mitral insufficiency predominate over those of the original lesion, then the treatment must be directed to relieve these, just as if no aortic mischief existed, and digitalis and caffein are indicated. It is, however, in diseases of the mitral valve that caffein is chiefly useful, and especially in the third or hyposystolic period, while the compensatory hypertrophy of the second or hypersystolic period is failing. In these cases, it may be given alone, or perhaps still better in combination with digitalis, and it should be continued alone in the intervals during which it is necessary to suspend the administration of the digitalis. Caffein and especially, according to Gubler, guaranin, which is chemically identical, from their power of increasing the tension of the circulation, possess the property of provoking abundant diuresis. The diuresis is in relation with the amount of serum in the cellular tissue; when dropsy no longer exists, the diuretic effect is much less; in health, too, caffein causes only very slight diuresis. In the fourth or asystolic period, the heart has become a prey to granular fatty degeneration, and the so-called cardiac cachexia is established; to this period Gubler has also given the name of cardioplegia. Digitalis is now absolutely contra-indicated, but from caffein marked improvement may be obtained—'veritable resurrections,' according to Dujardin-Beaumetz. Professor M. Peter, in his clinical and practical *Treatise on Diseases of the Heart*, 1883, says: 'Digitalis is especially indicated with excessive frequency of the beats of the heart, its action being tumultuous and irregular; caffein especially with weak action and slow contractions.' Dr. Muñoz recommends that caffein should be given in solution; as a powder or pill it is very insoluble, requiring 75 parts of gastric juice to dissolve it, and pills may pass through the alimentary canal undissolved. The dose varies from 10 centigrammes to 2 grammes daily; the latter quantity is often necessary in heart cases to obtain the proper effect of the drug. He prefers to give it in aqueous solution, with benzoate, salicylate, or cinnamate of soda to increase its solubility. Caffein may also be often given with advantage hypodermically, when vomiting exists, or when it causes, as it often does, pain in the stomach, or in those very grave cases when death seems imminent, and a prompt and certain effect is wanted.

5065. *Villar and Florez on Antisyphilitic Hypodermic Injections.*—The authors maintain that the hypodermic method in the treatment of syphilis has many advantages. It is more convenient than the method by inunction; the dosification of the remedy is more exact, and ptyalism is very uncommon. It is better than internal administration, as it does not give rise to gastro-intestinal disturbances; it shortens the duration of treatment, and very rarely produces salivation. Injections of bichloride of mercury are very painful, those of the biniodide even more so; injections of the albuminoid solution, which is difficult to prepare and unstable when made, have no superiority to those of the sublimate. Solutions of mercuric peptone keep longer than those of the albuminate, and do not cause local disturbance; the mercuric peptone has the same action over syphilis as the sublimate. The solution of cyanide of mercury is prepared easily; it does not coagulate albumen; injections usually do not cause pain or local accidents; it is especially useful in cerebral and ocular complications. Injections of mercuric peptone and of cyanide of mercury, then, are to be preferred, the latter especially in cases of ocular, cerebral, or medullary syphilis. Iodide of potassium may be given hypodermically; it is perfectly absorbed, as is proved by the characteristic reaction of iodine in the urine; but it should only be given hypodermically when it is not tolerated by the stomach. G. D'ARCY ADAMS, M.D.

5066. *Kappeler on Death from Chloroform.*—At a recent meeting of the Strasburg Scientific and Medical Association, Dr. Kappeler read a paper on death from chloroform inhalation (*Berliner Klin. Wochensch.*, No. 45). In the *post mortem* examination, no sign of decomposition of the body being present, there was found in the heart a walnut-sized bubble of nitrogen gas. Death had ensued after only a small quantity of chloroform had been inhaled, and the terminal symptoms had been preceded by vomiting movements and respiratory disturbances. Again, in the heart of a man, aged 60, who had been a heavy drinker, and who died unexpectedly while under chloroform, there was found a large quantity of gas which turned out to be nitrogen gas. In the hearts of fresh bodies after death from different causes there was found either no gas at all, or else, if decomposition had set in, a little carbonic acid gas. For some cases of death from chloroform, therefore, when the quantity given has been too small to cause paralysis of the heart or respiration, we may assume that nitrogen has been developed in the blood and has accumulated in the heart.

E. J. EDWARDES, M.D.

5067. *Vulpian on Salicylate of Lithia in Rheumatism.*—M. Vulpian has read, before the Académie de Médecine, a summary of the results of his experiments on salicylate of lithia in articular rheumatism. He states that his experiments indicate that lithia salts are not so poisonous as they are supposed to be. Salicylate of lithia is not more dangerous than salicylate of soda, and can be administered in almost equally strong doses. In acute articular rheumatism, salicylate of lithia relieves the pain which often remains in the joint after the swelling has disappeared, whereas colchicum and salicylate of soda have no effect. M. Vulpian believes that salicylate of lithia is especially beneficial in fibrous rheumatism. In progressive subacute rheumatism, M. Vulpian has seen salicylate of lithia produce great improvement. Salicylate of soda has been successful in such cases, and produced amelioration of the patient's condition; but both greater and more lasting benefit is obtained by salicylate of lithia. In chronic articular rheumatism M. Vulpian has found salicylate of soda useless, whereas salicylate of lithia has had a marked effect on the joints, which become less swollen than before the treatment. In order to obtain evident results, four grammes, sometimes four and a half or five grammes, must be given daily. Larger doses are followed by toxic symptoms. This drug sometimes induces headache and deafness, but is never followed by the distressing noises which characterise treatment by salicylate of soda. The headache and deafness disappear quickly.

5068. *Laborde on Aceto-phenon.*—M. Laborde has studied the action of aceto-phenon on patients when administered in relatively small doses. M. Dujardin-Beaumetz, in a recent communication to the Biological Society, stated that this substance produces sleep, accompanied by vertigo and cephalalgia. According to M. Laborde, a cubic centimètre injected under the skin of a guinea-pig produces a torpid comatose condition, from which the animal does not recover. A dose sufficient to produce sleep results in death; respiration is quickened and becomes irregular, the heart-beats are fewer in number, the animal starts convulsively, gradually grows colder, and dies. Aceto-phenon has quite a different effect on dogs; in hypodermic injection it is inert; if it be swallowed, vomiting follows; intravenous injections quickly produce sleep; a cubic centimètre thus administered throws the animal into an anæsthetic and analgesic condition; death ultimately ensues. At the necropsy, congested patches are observed, with infiltration of blood into the renal parenchyma, due probably to a general deterioration of the blood. In addition to these symptoms, there is a general lessening of the tension of the blood. Aceto-phenon, called by M. Dujardin-Beaumetz hypnon, always produces local irritation; the nerve nearest the area of injection loses its excitability and its sensibility; the muscle it innervates loses its contractility. It causes anæsthesia of the cornea when injected between the eyelids, but produces violent ophthalmia. If small doses of aceto-phenon be given before chloroform is given, it facilitates sleep. MM. Dubois and Bedaud have studied aceto-phenon at length, and also have observed that when administered previously to chloroform it induces sleep. A 4 per cent. chloroform mixture is sufficient, whereas, without aceto-phenon, one of 8, 10, or 12 per cent. is necessary. An hour afterwards, the animal wakes up, and a fresh injection of hypnon is necessary if it is to be sent asleep again.

5069. *Desnos on the Action of Baptisin, Sanguinarin, Juglandin, and Phytolaccin.*—A few years ago, the late Dr. Noel Gueneau de Mussy communicated to the Academy of Medicine Professor Rutherford's researches on different medicinal substances. M. Desnos has tested these experiments on four different bodies—baptisin, sanguinarin, juglandin, and phytolaccin. They are all resinous extracts from American plants. They are brown-red powders, very hygrometric, and have a saltish taste. M. Desnos used them in the form of pills of from 5 to 10 centigrammes. Baptisin was administered to fourteen patients, sanguinarin to four, juglandin to thirteen, and phytolaccin to seventeen. The patients did not remain in bed all day, in order not to encourage constipation. The general dose was 30 centigrammes (about 4·6 grains) daily, administered in two separate doses. If more were given, a third dose was taken at eight o'clock at night. The patients generally had a stool the following day or night. In the case of patients habitually constipated, they gradually had regular motions. Baptisin, in doses of 30 centigrammes, was regular in its action, but frequently provoked colic. Sanguinarin, considered by Professor Rutherford as a never-failing cholagogue and purgative, was perfectly inert, though given in doses of 60 centigrammes. The action of juglandin, Dr. Desnos reports to be the same as that of baptisin. In two instances after it had been administered the stools contained blood; one of the patients was a convalescent after typhoid fever, and the other was rheumatic and dyspeptic. Phytolaccin, given in doses of 10 or 20 centigrammes, is regular in its action, and is not accompanied by colic.

5070. *Schultz on Subcutaneous Injections of Bichloride of Mercury.*—Schultz recommends for subcutaneous injection (*Deutsche Med. Wochensch.*, and *Centralbl. für Klin. Med.*, p. 548, 1885) 1 gramme of mercury bichloride dissolved in 100 cubic centimètres of hot distilled water. When this mixture becomes cold, 50 centigrammes of urea are added. This solution can be preserved for two or three months without deteriorating. The water used must be distilled and rendered perfectly pure, or the injection will give pain.

5071. *Suyers on Antipyrin.*—M. Suyers (*Ann. de la Soc. Méd.-Chir. de Liège*, p. 472) has administered antipyrin twenty times in typhoid fever. According to his experience it lowers the temperature without having any other special effect on the organism. Administered fifteen times for tuberculosis, in doses of 50 centigrammes, until from 2 to 5 grammes have been administered, the temperature fell below the normal. In acute articular rheumatism, Alexander (*Centralbl. für Klin. Med.*, 1884, No. 36), Tilmann (*Deutsche Medicinische Wochensch.*, No. 35), Pribram (*Prager Med. Woch.*, 1884), and Demuth (*Aertzliches Intelligenzblatt*, Dec. 9, 1884) believed that the local symptoms were moderated as well as the temperature lowered. M. Masius verified these experiments, and affirms that the antipyrin produces the same results as salicylate of soda. M. Suyers concludes that improvement in the condition of the patients is slow or rapid, according to the dose used. Antipyrin may, therefore, be considered as an antithermic agent, and one capable of modifying articular disturbance.

5072. *Magnan and Juranville on Boldo-glucine or the Glycoside of Boldo as a Narcotic.*—In the *Paris Médical*, Nov. 21, 1885, it is observed that much has been written on boldo, but no generally admitted conclusions have been forthcoming. The tincture of boldo was used, as well as the wine; when subsequently boldine, an alkaloid, was isolated by Verne and Bourguin. In 1884, M. Chapoteaut extracted from this plant another substance, which, when submitted to reagents, behaved as a glucoside. It was first tested on dogs, and afterwards on patients in M. Magnan's wards; doses of 2, 4, 6, and 8 grammes were given in draughts, capsules, or in rectal injections. Boldo is a powerful narcotic, without any attendant disagreeable results. A patient of M. Magnan, at Saint-Anne's Asylum, who suffered from hallucination and passed sleepless nights in a great state of distress and excitement, produced by imaginary tormentors, slept soundly when she took 2 grammes of boldo. This was discontinued during a period of ten days, and her old sufferings returned; she implored to have the capsules given to her again, and she then passed tranquil nights. Dr. Juranville, in a short memoir on boldo, describes ten similar cases. This substance is a hypnotic agent producing sleep, similar to natural sleep; there is an absence of anæsthesia; the respiration is normal; less carbonic acid is exhaled than when awake; the brain is also less congested than during waking hours. Administered to insane patients, boldo produces sleep in patients who had been long worried by insomnia. W. VIGNAL.

REVIEWS.

ARTICLE 5073.

Von Ziemssen's Handbook of General Therapeutics. Vol. II. Antipyretic Methods of Treatment, by Professor C. VON LIEBERMEISTER; Antiphlogistic Methods of Treatment, by Professor TH. JÜRGENSEN; and Epidermic, Endermic, and Hypodermic Administration of Medicines, by Professor A. EULENBERG. Translated by MATTHEW HAY, M.D., Professor of Medical Jurisprudence, University of Aberdeen. London: Smith, Elder, & Co. 1885.

THE volume before us will do much to elucidate what has been and still remains a puzzle in affections of which fever forms a salient feature. One of the great advances made in late years, has been the recognition of the fact that the fever *per se* may constitute a symptom of sufficient importance to justify our concentrating our attention on it for the time being to the exclusion of the others, and doing our utmost to reduce the fever, first by mechanical abstraction of heat (antithermic treatment), and, secondly, by remedies which tend to lower the temperature by diminishing the febrile process (true antipyresis). The latter has been attempted from time immemorial, and has the advantage of preventing the 'febrile waste' of the tissues; but it was reserved for modern observation and inference to venture on the antithermic treatment of patients suffering from fever, in a manner which would have ensured an uncompromising condemnation, not many years ago, to the medical practitioner bold enough to reduce his ideas to practice.

It must be recognised, then, that many of the ill effects of diseases characterised by fever are due to the fever itself, and that if we can, by the means at our disposal, check this rise and prevent it from attaining, or, at any rate, maintaining an abnormal and dangerous height, we thereby relieve the patient of an imminent peril, and place him in a condition to battle under more favourable circumstances with the remaining symptoms. It is symptomatic treatment in its best and truest application.

The means and manner of securing this object are dealt with thoroughly in the volume before us. Beginning with an interesting historical essay, the general subject of abstraction of heat is discussed from a scientific point of view, and the theoretical value of this method of treatment is accurately and clearly explained. Subsequently, the influence of particular drugs is scrutinised, and an attempt is made to give an approximative idea of their respective value as antipyretics. The author confines himself to discussing those already well known; but the translator supplements the deficiencies of the list by some remarks of his own in the form of an appendix, bearing on drugs of quite modern introduction. It is curious that little importance appears to be attached to aconite, judging from the limited space devoted to its consideration.

Due weight is given to the influence of judicious dieting of fever-patients, and stress is laid upon the necessity of attacking the fever from several points at the same time, and of persisting in our attempts.

Antiphlogesis, which may be assumed to mean here antipyresis in a more limited sense, provokes an energetic condemnation by Professor Jürgensen of venesection, which he holds in horror, although he owns that it has never been part of his practice. A dreadful picture is drawn of the extent to which this practice was carried in years gone by, and an endeavour is made to show the unreasonableness of depletion as routine practice. Its physiological effects on the human body are exhaustively criticised, and copious tables are given of the results of experiments and observations on man and animals. The subject of transfusion, its indications and *modus operandi*, occupies nearly a hundred pages; and, although there is nothing particularly new either in the author's views or in his practice, yet much may be learned concerning the results to be hoped, and the dangers to be feared, from its employment.

Dr. Eulenberg contributes an essay on the hypodermic, epidermic, and endermic administration of drugs. All the chief drugs so employed are passed in review, and the translator has intercalated many excellent notes in reference to particular remedies; and he has moreover given the equivalent in English measure of their doses, thereby much facilitating their due appreciation by readers unfamiliar with the metric system.

ARTICLE 5074.

Von Ziemssen's Handbook of General Therapeutics. Vol. III. Respiratory Therapeutics. By Professor M. J. OERTEL, M.D., of Munich, translated from the German, with a preface and notes by J. BURNEY YEO., M.D., F.R.C.P., Professor of Clinical Therapeutics in King's College, &c. London: Smith, Elder, & Co. 1885.

THE present volume is by far the most voluminous of the parts hitherto published of this work, and this may be taken to indicate, as the translator puts it, the great importance attached, in Germany and elsewhere, to this branch of therapeutics. Great strides have been made during the last twenty years by improvements in the necessary apparatus, and observations have been carefully made and recorded of the results obtained. The subject, it is true, still lacks precision both in its indications and its applications; but the field, if promising, is at the same time so vast, that much has been done by the mere enumeration and explanation of the appliances at our command, together with an epitome of our present knowledge. This is the object of the work before us, and its completeness leaves nothing to be desired. It is not difficult to conceive that in many—if not in the majority—of diseases of the respiratory tract, a much more satisfactory effect will be produced by direct application of remedies to the affected surfaces, if suitably administered, than by the circuitous route *viâ* the stomach; nor can it be thought desirable or necessary to act on the constitution in conditions where the fault may fairly be classed as local. Even when constitutional effects are those which we have in view, it is often preferable to administer medicines by way of inhalation. This is notably the case with chloroform, ether, &c.; and this method might doubtless be extended with advantage to many other drugs, which, as at present employed, put the stomach out of order, derange the digestion, and irritate the eliminatory organs. The arsenal of this branch of therapeutics is better stocked than most people imagine. Starting from the inhalations of steam, medicated or simple, which have been in vogue ever since the days of Hippocrates, we may employ vapours or fumes of substances, such as iodine, nitre, &c.; or we can dissolve these substances in water and administer them in the form of a spray, by means of one or other of the ingenious *pulvérisateurs* which modern invention has placed at our disposal, and of which an ample variety are illustrated and described in the volume before us. Again, if desired, we can cause substances to be inhaled in the form of an impalpable powder, which shall exercise its beneficent action directly on an irritated or diseased mucous membrane. The object of the inhalations may be, as we have said above, to procure constitutional effects; or, on the other hand, it may be directed to the production of some local change, stimulant or anodyne, astringent or demulcent, solvent, styptic, or antiseptic.

The second part of the work treats of the physical department of respiratory therapeutics. This is essentially of modern origin, although we moderns were not by any means the first to avail ourselves of the advantages of high or low atmospheric pressure. The ancients had a very fair conception of the good to be derived from a sojourn on the mountains or by the seashore, where, in addition to certain other qualities, we see a natural means of breathing an atmosphere under different conditions of pressure. What has been done of late in this direction, has been to reproduce these conditions under circumstances which permit a systematic investigation of their effects and a careful scrutiny of each of the different factors involved, with a view of determining what therapeutic effects each or any of them may be expected to yield.

The author has done his best, and the translator has ably seconded his efforts, to put us in possession of sufficient data to enable us to carry on the inquiry ourselves; and it would be difficult to find a more promising field for energetic, painstaking, and scientific observation. The book is clearly printed, and copiously illustrated with plans of the various apparatus, while there is no lack of sphygmographic tracings to show the effect of the 'pneumatic' treatment of the circulation, &c.

ARTICLE 5075.

A Physician's Pharmacopœia. By J. BAILY, Pharmacist, Margate. London: J. & A. Churchill. 1885.

THIS small pocket companion, of about 100 pages, contains formulæ of various unofficial preparations; and the author gives as the reason for its compilation the laudable object of 'securing uniformity in dispensing, and to discourage secret nostrums,' which object appears to some extent to have been attained.

The book furnishes data and suggestions as to the best and most reliable combinations of various drugs and chemicals, and gives some novel and valuable technical details pertaining to the domain of practical pharmacy, which may enable the physician to prescribe certain nauseous and irritant drugs in an agreeable and palatable form without sacrifice of their efficiency. Amongst the prescriptions which it contains will be found the following: acidum carbolicum odoriferum, anticatarrh smelling salts, chilblain specific, chlorodyne (two kinds), emulsio olei morrhuæ (with various compounds), enema nutritivum, essences, extracts, gelatines, glycerines, and glycerols, gossypia, insufflations, and liquors; mixtures of various agents, difficult of administration in such form, as caffein, carbolic acid, chlorine, cinchona and iron, and phosphorus; oleates, powders, pills, styptic colloid, and tinctures, including Warburg's fever tincture, tincture of lily of the valley, tasteless tincture of iron, and tinctura iodi decolorata. The formulæ for lozenges are a particular feature of the book, full directions being given for the prescription of nearly sixty different preparations in this special manner. Formulæ for ointments, vapors, and vinum carnis cum ferro et cinchonâ, and a copious index and dose-table, bring this useful little compilation to a close. It is likely to find a place in the consulting-room and coat-pocket of the consultant and busy practitioner, to both of whom it may be expected to furnish many serviceable hints in the prosecution of their daily work.

ARTICLE 5076.

A Handbook of Therapeutics. By SYDNEY RINGER, M.D., Professor of the Principles and Practice of Medicine in University College, &c. Eleventh edition. London: Lewis. 1886.

THE eleventh edition of this deservedly popular text-book of therapeutics has now appeared, with additions to bring it up to date. The work is too well known to call for any remarks on its general plan, which is clear and comprehensive. The valuable chapters at the beginning of the book on the tongue, the pulse, &c., as aids to clinical observation, have not been interfered with, and will doubtless be as highly appreciated as heretofore. The information contained in them deals with details which, essential—nay, indispensable—though they be, are rarely treated as a whole, or in a way to enable the student to at once fix his attention at the bedside on the salient points before him; and whatever he subsequently learns of the subject is picked up casually during the first few years of his professional career.

The drugs of modern introduction which have secured for themselves a position in the arsenal of therapeutics are thoroughly discussed, and full notes of their physiological action are given. Dr. Ringer excels in this particular department; and, although the physiological action of drugs is not always, or even often, an indication of their therapeutical use, yet this knowledge is evidently useful and necessary to the student and scientific practitioner, and it is, moreover, a salient feature in examinations. In this category come gelsemium sempervirens, which possesses marked influence over certain forms of neuralgia; jaborandi, the alkaloid of which, pilocarpin, has a striking power over the secretion of sweat; and others classed as less important, such as convallaria majalis, muscarin, &c. The author deals rather briefly with cascara sagrada, antipyrin, and one or two others whose merits, if not absolutely established, are at any rate sufficiently remarkable to deserve more than a passing notice. There are, too, a few omissions. We are unable to find any mention, for example, of the jequirity bean, although it is by this time a stock drug in all ophthalmic hospitals; and the same remarks apply to homatropin. The physiological action of nitrite of amyl is carefully recorded, but no mention is made of its now recognised efficacy in cases of chloroform-poisoning. In the few lines devoted to nitrite of sodium, no allusion is made to Dr. Murrell's valuable investigations, and the information concerning this drug is meagre in the extreme. The article on iodoform is calculated to frighten any practitioner nervously disposed, and to discredit a drug which is daily becoming more widely used. The dose of the alkaloid hyoscyamia is put at from $\frac{1}{8}$th to $\frac{1}{6}$th grain, but, in furnishing this dosage, it would be well to caution the reader of the extremely uncertain and varying strength of the commercial article. With certain preparations which we have seen, one-sixth of a grain would have produced serious symptoms.

There is a short chapter, containing an ingenious generalisation of the topical action of acids and alkalies on secretion. Some valuable rules are given for the employment of alcohol, which may aid the conscientious student or practitioner to relinquish the routine use of stimulants, a habit which in many cases is attributable to an ignorance of what constitutes a contra-indication.

Dr. Buxton has revised the chapter on nitrous oxide gas, which is now very full, and he has contributed the articles on ether and cucaine, of the former of which his long experience as an anæsthetist enables him to speak with authority.

The book concludes with a liberal supply of directions for preparing food for the sick, and a copious index to diseases, both of which will be found invaluable for reference. Dr. Ringer pays a graceful tribute of thanks to Dr. George Bird for the great and valuable assistance which he has received from him throughout the work.

ARTICLE 5077.

Lehrbuch der Chirurgischen Krankheiten des Ohres. Von PROFESSOR HERMANN SCHWARTZE.

Text-book of the Surgical Diseases of the Ear. By PROFESSOR HERMANN SCHWARTZE. Stuttgart: Ferdinand Enke. 1885.

PROFESSOR SCHWARTZE, of Halle, the well-known editor of the *Archiv für Ohrenheilkunde*, has written a work on diseases of the ear. It may not be as detailed, or such easy reading as that of Professor Politzer, but in many parts it has strong and original characteristics of its own. A few of these we may point out here.

The author maintains unabated his confidence in the caustic treatment of chronic suppuration in the middle ear, which he introduced to the profession in 1868. The action is, he says, prompt and reliable in suitable cases—*i.e.* when the mucous membrane is hyperæmic, swollen, and succulent, but without granulations or caries. The method, of which full details are given, is simply to introduce a lukewarm solution of nitrate of silver (1 : 30 to 1 : 10) into the meatus, forcing it along the Eustachian tube by means of pressure on the tragus. Neutralisation, by means of a strong solution of common salt used in a similar manner, is never to be omitted. After thousands of applications of this method, the author assures his readers that he has never seen any drawbacks from its use.

In Chapter XI., on 'Excision of the Tympanic

Membrane and Ossicles,' the author enters upon ground which will be novel to many readers. The method he adopts is to divide the membrana tympani close to its periphery, removing at the back part also the 'tendinous ring' (according to Kessel's recommendation) in order to prevent a regeneration of the tissue at that part. The tendon of the tensor tympani and the joint between the stapes and incus are then divided. The membrane, which is now movable, is removed, together with the malleus and incus, by placing a Wilde's snare round the manubrium. Roughly speaking, the author recommends the operation in cases of caries of the malleus and in instances of fixation of that bone, the stapes still remaining movable, as tested by a preliminary perforation of the membrane and other means. Short particulars of six cases are given, from which it appears that the results of the operation are not brilliant in regard to the improvement in hearing power, but they show clearly its feasibility and the effect it has in improving the tinnitus in some cases. The author speaks favourably of it in caries of the malleus, as a means of arresting the intractable suppuration. Further particulars of the method of operation and of the indications for the same must be read in the original.

On p. 309 the author states his experience that the treatment of acute purulent otitis media by means of powders (iodoform, boracic acid, alum, &c.), is very likely to give rise to secondary mastoid periostitis by favouring the retention of pus.

As might be expected, considerable space, altogether twenty-six pages, is devoted to perforation of the mastoid process, a subject on which the author's experience is large. He keeps to his method of operating by means of hollow chisels, 2 to 8 millimètres wide. We find him drawing special attention to the fact that caries may exist in the mastoid process for years, although the skin over it may be perfectly normal, and that small carious openings may exist in the cortex with a perfectly unaltered tegumentary covering, and without its being possible to ascertain their presence by palpation with the finger.

The book has the advantage of an index, and a copious reference to authorities at the commencement. It is a work which should be read by every otologist. E. CRESSWELL BABER, M.B.

ARTICLE 5078.

On Tubercle and Tuberculosis. Part I. By Professor P. BAUMGARTEN. Pp. 125, with 7 plates. Berlin: Hirschwald.

THIS pamphlet, a reprint from the *Zeitschrift für Klin. Med.*, Band ix. and x., comprises the histogenesis of tubercle. The author begins with a short sketch of the progress of our knowledge of tubercle. Cohnheim in 1882 said:—'We know nothing as regards the most important point of all—*i.e.* the origin of the cellular elements of these new growths, such as tuberculous, leprous, syphilitic, &c. None of the hypotheses founded on the histological characters have been verified—*e.g.* these cellular elements have not been proved to originate from the endothelium of lymph-vessels, nor from the cells of the vascular adventitia, nor from connective-tissue cells, whether fixed or migratory. There is, moreover, no actual proof of their origin from colourless blood-corpuscles, though the above-mentioned neoplasms are so nearly related to inflammatory granulation-growths as to make this assumption very plausible. It has yet to be decided whether tuberculous growths are to be classed amongst the infective inflammations or the infective hypertropies, or whether there is an intermediate stage.' Again, Arnold (see Virchow's *Archiv*, Band lxxxii.-lxxxiii. and lxxxvii.-lxxxviii) made an advance in proving in tubercles of the kidneys and lungs a nuclear division of the enclosed epithelial elements, which clearly represented a process of proliferation of the preformed elements of the tissues, and a share of these in the formation of epithelioid and giant-cells. But how the latter arise in interstitial connective tissue, where no preformed elements exist, is left uncertain. Arnold presumed their origin from lymphoid cells, but by progressive—not regressive—metamorphosis, in opposition to Ziegler. These lymphoid cells Arnold allied, as Virchow does, more closely to fixed connective-tissue cells than, as most authors do, to migratory blood-cells. Examinations of organs after death not affording a solution of this problem, recourse was had to experiment.

It was long known that the presence of foreign bodies in the tissues could cause the formation of miliary nodules, and for a time this was thought to upset the results of Villemin's inoculations with human tubercle. But such miliary nodules differed from this, both histologically in not exhibiting giant-cells, and pathologically in not having an infective character, and especially in not undergoing caseous metamorphosis—the true criterion, apart from the tubercular bacilli, of human tubercle.

Then came Koch's discovery of the tubercle-bacillus, also independently discovered by the author, who claims, moreover, to have recognised its specificity and importance (see *Centralbl. für die Med. Wiss.*, 1882, No. 15, and *Ueber Tuberculose*, *Deutsche Med. Woch.*, 1882, No. 22). The *Centralblatt*, No. 22, 1884, contains the author's method of producing pure cultures of the bacillus by successive inoculations of different rabbits with tuberculous matter. The original piece of tubercle is left in the anterior aqueous chamber for one week, where it enlarges without inflammation. From this a second rabbit is inoculated, and so on, thus substituting elaborate culture-apparatus by living tissue. The author had early said of the bacilli, 'without (these) tubercle-bacteria no tuberculosis,' and conversely. And, further, he alleges that he has definitely shown that the tubercle caused by Koch's inoculations underwent caseous changes and, consequently, was really true human tubercle, the importance of which point Koch himself appears to have somewhat underrated. It is most highly probable, however, that Koch's brilliant experiments did stimulate the author to renewed researches.

The main object of this pamphlet is to prove the share which the finer cells of the tissues take in the formation of tubercle, in opposition to the very prevalent view that wandering leucocytes play here the chief part. Koch, in his well-known paper (*Mitth. aus dem. Kais. Ges.-Amt.*) states that the tubercle-bacilli invading the body are conveyed to the various sites by migratory leucocytes, and thinks it extremely probable that these cells, laden with bacilli, when they come to a standstill, are changed into the epithelioid and giant-cells of tubercle; but leaves it open to supposition whether or not the fixed cellular elements of the past may take up the bacilli, and may then have an epithelioid character. All this is stoutly opposed by Baumgarten, on the strength of numerous detailed inoculation-experiments. He declares that the bacilli are free in the tissues, and are only exceptionally enclosed in migratory cells, and then only when vascular changes have been caused. A tubercle is thus not a mass of leucocytes, neither do these ever change to epithelioid and giant-cells. These latter are derived solely from the fixed cellular elements of the tissues; moreover, they do not originate in the union together of epithelioid cells, but from nuclear prolification of such cells separately, each remaining single. The process is a restrictive one, and accordingly giant-cells are found chiefly in chronic localised tubercle, when only few bacilli are present.

But the author extends his conclusions, which agree with those of Virchow and Cohnheim, of Cornil and Ranvier, and others, over the whole domain of granulation-tissues, and asserts that all such tissues find their starting-point in the karyo-kinetic division of the fixed cellular elements of the tissues—*i.e.* the epithelioid elements of such growths represent derivatives from the previous epithelioid layer of the blood and lymph-vessels at the point of inflammation, the fixed connective-tissue cells of vascular canals, or the investing or glandular epithelium—and not as Ziegler and most modern pathologists assert, from escaped colourless corpuscles. The latter do escape, it is true; in fact, there is a typical inflammatory exudation of them from the vessels enclosed in the affected spot, but this is a secondary process, by which the *primary epithelial-celled* tubercle is converted into the secondary lymphoid-celled tubercle, a change which occurs the more quickly as the bacilli are more numerous. If once the lymphoid-celled tubercle be produced, it is incapable of further development; its only destiny is destruction by caseous metamorphosis, beginning with nuclear necrobiosis, and ending in the formation of a cheesy detritus. The author's experiments were chiefly made on the eyes of living albino rabbits, as well as other organs, and the reader is referred to the original for further details which are of absorbing interest. The illustrations are creditable to the work.

E. J. EDWARDES, M.D.

ARTICLE 5079.

The Surgical Diseases of Children. By EDMUND OWEN, M.B., F.R.C.S. Cassell & Co. 1885.

THIS is one of Cassell's clinical manuals for practitioners and students in medicine; and we look with considerable interest at the work, coming, as it does, from the hands of a surgeon of special experience in this subject, and recognised as an able teacher as well as a peculiarly practical surgeon.

The limited size of these manuals necessarily restricts the author, and yet the subject is treated thoroughly, and the views expressed are the result of his own experience rather than a compendium of the experience of others. It is in no sense a compilation, but a series of essays on the various diseases of childhood which come under the surgeon's notice. And the language is forcible enough and clear enough to make the book both attractive and useful. It certainly may be looked to as the type of a practical manual, and will strengthen the reputation of the author and be a credit to the enterprise of the publishers. In the preface 'claim is not made that this volume be considered an exhaustive treatise' its design is that of a 'complete monograph; in a series of clinical manuals for practitioners and students.' The larger works of Holmes, Cooper Forster, West, and others are recognised as the standard works of reference; and the author treats his subjects shortly but vigorously, and with great success. The arrangement of the type also adds materially to the clearness of the book for reference, and the woodcuts are good, though simple. The four coloured lithographic plates are useful and good representations of extreme rickets, strumous dactylitis and ulcerative stomatitis, condylomata and ectopia vesicæ, and myeloid tumour of the jaw and molluscum contagiosum.

Looking now at the real work of the author more critically, we find a chapter of introductory remarks, which are short but eminently practical. The few words on how to examine children and gain their confidence should be read by every student, and might be followed more carefully by other practitioners very often. We fancy the author might be even clearer than he is in insisting upon the surgeon not on any pretext telling a patient a lie. Children are very sharp, and once deceived will not easily recover their trust. We feel strongly that it is wrong and shortsighted to tell an untruth to a patient who can understand, whether the patient be a child or even an insane person. The introductory remarks include a reference to temperature; and here we find a practical warning against being alarmed by a sudden rise as shown by the thermometer, and a statement that it is the steady rise of temperature which forebodes ill. But we think that some reference might with advantage be made here to the normal range of temperature in a child. The value of the pulse, precautions to be taken before operation, anæsthetics, medicines, leeches and poultices, are discussed, and then follow a couple of pages of useful advice upon how to bring up infants.

After the introductory remarks, follow chapters on special subjects; and each chapter forms a short but practical essay of about a dozen pages on the subject chosen. Beginning with croup, diphtheria, and laryngitis, the author takes into consideration the many things which such a work involves, and gives most space to the consideration of croup and its allies, to surgical diseases of the mouth, pharynx, and ear, to the genito-urinary tract, the spine, fractures, hip-joint disease, knee-joint disease, and to deformities of the foot. It is beyond the scope of a short review to examine these chapters very critically; but we rise from a perusal of the work, satisfied that we have before us a sound guide for students and practitioners, and we do not find that anything of importance has been omitted. Moreover, what is said is said in language that cannot be mistaken. We are glad to find a clear condemnation of the dangerous and generally futile plan of sucking the tracheal tube or tracheal wound for the dislodgment of diphtheritic membrane. This has been treated too lightly by some authors of reputation.

In the treatment of the various surgical affections, the author is careful to indicate the principle requisite to be borne in mind, and does not deal so much with the special splint or apparatus, or material used, as with the objects which have to be gained. It is such indications that the student or practitioner requires to lead him to reasonable treatment; and the details of what the author has found best after a large experience are valuable as bearing out the principles he lays down. A surgeon should be a practical mechanist, and it is a pity that more attention is not given to practical mechanics at schools generally, and especially when it is known that a boy is intended for the medical profession.

The remarks upon the pathology of certain affections are short and clear, and an useful paragraph on prognosis is inserted in most of the subjects treated. The work will probably find a large field of usefulness, and will form a reliable guide and a very attractive companion. The author may be heartily congratulated upon the appearance of the manual.

W. W. WAGSTAFFE.

ARTICLE 5080.

Pathological Mycology. An Inquiry into the Etiology of Infective Diseases. By G. SIMS WOODHEAD, M.D., F.R.C.P.Ed., Assistant to the Professor of Pathology, and ARTHUR W. HARE, M.B., C.M., Assistant to the Professor of Surgery in the University of Edinburgh. Section I.—*Methods.* With Sixty Illustrations. Edinburgh: Young J Pentland. 1885.

THE strong point in this volume is the illustrations which are undoubtedly of great though unequal merit. The coloured drawings of the micro-organisms, as they are seen in stained specimens of secretions or organs are, as a rule, very good and true; so are the brilliantly coloured drawings of micro-organisms growing on potatoes, and on bread-paste in flasks. More qualified praise must, however, be given to those intended to illustrate the appearances presented by various organisms as growing in test-tubes; some are good, while others are indifferent. The apparatus used in research is figured and well described (as are also the methods of staining micro-organisms in tissues and secretions). For the rest, it will suffice to say that directions are carefully given for making and sterilising suitable media for cultivation, such as bread-paste, various fluids, meat-gelatine, and meat agar-agar, and blood-serum, for charging the vessels and for inoculating, as well as for obtaining material for inoculations. The specific peculiarities of some of the commoner micro-organisms are somewhat shortly given in an appendix, and a second appendix contains a bibliography which will be of assistance to workers who desire to go to the original authorities.

ARTICLE 5081.

Manuel de Technique des Autopsies. Par BOURNEVILLE et P. BRICON. Paris. 1885.

THIS is a clearly printed, compact little volume, about the size of a pocket-book, intended as a text-book for those who are called upon to make autopsies. It measures 5½ by 4 inches only, and weighs 5¼ ounces. But, like most French books, its value is greatly diminished by the slipshod manner in which it is, we will not say bound, but put together. Otherwise, it would be just the book for the medical practitioner who is only occasionally called upon to operate, to put into his pocket on the way to a *post mortem* examination.

About two-thirds of the book is devoted to the details of necropsies. The directions for making these are, as a rule, excellent. We may more especially point out those relating to the examination of the brain. This chapter is illustrated by clear, though somewhat diagrammatic, engravings, mostly borrowed from Charcot's *Leçons sur les Localisations.* No attempt is made to make the book a treatise upon pathological anatomy. Nearly one-half the bulk of this small volume might with advantage be dispensed with. Statistical and bibliographical details as to the time at which *post mortem* examinations are begun in various countries, and urgent demands that every other consideration should give way to the imperative needs of science, for early necropsies, are here out of place. The authors quote with no disapprobation the (as it is stated) practice at Buda-Pesth of commencing necropsies about half an hour after death.

This preliminary section, however, of the book is, though misplaced, of great interest, and might well form an introduction to some larger treatise on pathological anatomy. It is full of valuable information. But, like most French writers, the authors entirely ignore what is done in England. The practice of this country is not once referred to; whilst the practice of such minor places as Bucharest and Hayti is repeatedly quoted.

Another great defect is, that medico-legal *post mortem* examinations are entirely, and purposely, ignored; and it is in the making of these that the general practitioner most needs the assistance of a handy manual. Yet, in spite of these defects, this manual is one which is well worthy of perusal, and to be placed on the shelves of every medical man's library.

Hospital authorities and municipal officers will find full descriptions of the needs of the dead house, with plans, elevations, and details as to *personnel* and instruments required.

THOS. STEVENSON, M.D.

ARTICLE 5082.

Cancer. A Study of Three Hundred and Ninety-seven Cases of Cancer of the Female Breast. With Clinical Observations. By WILLARD PARKER, M.D. New York and London: G. P. Putnam's Sons.

THIS book is a valuable record of conscientious clinical labour, undertaken by the late Dr. Willard Parker. The author fell ill and died before the preparation of the work itself could be completed; but the task was finished by his son. Dr. Parker considered that the formation of cancer-cells was essentially a process of perverted assimilation in the tissues of the diseased part, and was strongly in favour of the local origin and non-hereditary character of the disease. His own statistical evidence led him to believe that the great effective causes of cancer were luxurious living, prolonged local irritation of an epithelial surface, mental affliction, and lastly, dysmenorrhœa and other uterine irregularities. The second of these four alleged causes has long been recognised, and alone may be said to have been advanced beyond the limits of theory. A badly made corset is no doubt the guilty agent in some cases of scirrhus of the breast; nor must it be forgotten that fibres of cotton-wool or of other fabrics rubbing against the open ducts at the apex of the nipple are sources of dangerous irritation. Dr. Parker held, with respect to luxurious living, that excess in animal food increased the waste products of the body, and that, if coupled with insufficient exercise, the waste products were retained in the system and had a tendency to produce abnormal growths. The two other supposed causes of cancer are based upon far more hypothetical grounds. The author's classification of the different varieties of cancer of the breast is clinical rather than pathological; but it must be remembered that Dr. Parker could not have spoken of cases under his treatment forty years ago, in the terms of contemporary pathology.

Dr. Parker's observations are of interest and deserve respectful consideration for evident reasons; nevertheless, his statistical tables are of far higher value. They were collected and prepared by a surgeon who was competent to undertake such a task, so that they will be valued and trusted by all future workers who may desire to study subjects connected with malignant disease, however they may disagree with the author's theories. The headings of the tables are Date—Number of Cases—Civil Condition—Number of Children—Breast involved—Family History—Manifestation of Disease before or after Menopause—Age at Commencement—Age at Operation or Observation—Number of Operations—Duration of Disease—Lived after Operation—Variety of Cancer—Physical Condition—Assigned Exciting Cause—General Remarks. The dates range from 1830 to 1881; so that few, if any, statistical tables have ever been founded upon so long a personal experience on the part of their compiler. ALBAN DORAN.

ARTICLE 5083.

Ueber den Shock. Eine kritische Studie auf physiologischer Grundlage. Von Dr. G. H. GROENINGEN, Staatsarzt am königl. med.-chir. Friedrich-Wilhelms-Institut in Berlin. Mit einem Vorwort von Dr. A. BARDELEBEN. Wiesbaden: Bergmann.

DR. GROENINGEN attributes shock to exhaustion of the medulla oblongata and spinal cord, due to a great violence inflicted upon the nervous system, and rejects all other theories. He believes that reaction by no means necessarily or invariably succeeds shock, and that it is not a result of shock, but that both are due directly to the injury. As for the fever of reaction, described by some authors, he considers that it is true traumatic fever, and quite independent of reaction. Shock appears to be invariably associated with many influences besides the direct injury during an accident or operation, such as alcoholism, fear, imperfect administration of anæsthetics, clumsy bandaging, cold rooms, cold beds, and transport too soon after operation. The author insists on the purely symptomatic character of shock, and on its negative *post mortem* appearances. *Ueber den Shock* is a valuable work of reference; every question relating to its subject is carefully discussed, and the collective experience of other writers is fully displayed and duly respected.

ALBAN DORAN.

ARTICLE 5084.

Notes on Inorganic Materia Medica and its Chemistry. By J. SCHÜTZ SHARMAN. London: Effingham Wilson. 1885.

IN this little book of fifty pages, an endeavour has been made to explain the elementary chemistry connected with the inorganic portion of the Materia Medica. Much stress is laid upon the formulæ and the quantivalence of the elements. As the author himself states, the matter of the Materia Medica has been based upon the standard works of Brunton, Garrod, and the *British Pharmacopœia*; and that of the chemistry, upon Attfield and Roscoe. In so far the book fulfils its purpose admirably; and, as it can be easily carried about in the student's pocket, it might thus be made very useful to him in his early efforts to make himself acquainted with the elementary details of this far from agreeable subject, at least at its outset. If he were provided with a similar small handbook of the elements of organic Materia Medica, drawn out on the same lines, the student who is working in a druggist's establishment, or, better still, in a hospital dispensary and Materia Medica museum—and, without a practical training of some such kind, it may as well be said Materia Medica cannot be properly learnt—will, with some application, be very well furnished and prepared for the laying down of a sound and solid foundation, upon which, with advantage, he can afterwards safely build, by means of such an admirable and scholarly text-book as Brunton's *Pharmacology, Therapeutics, and Materia Medica.*

T. CRANSTOUN CHARLES, M.D.

NEW PREPARATIONS.

ARTICLE 5085.

MESSRS. BRAND & CO.'S NEW PEPTONISED MEATS.

MESSRS. BRAND & CO., of Little Stanhope Street, Mayfair, who have for some time past been engaged in a series of experiments connecting with the peptonising of meat foods, have recently made public their results by introducing their beef, veal, mutton, and chicken peptones, which are of very superior quality. The samples submitted to the writer have a fine tonic bitter flavour, and as delicate preparations of the nutritive and pre-digested principles of the different meats mentioned can scarcely be excelled. The many years Messrs. Brand & Co. have been before the public as makers of special foods for invalids, and the practical knowledge acquired by them during that period, have no doubt been of material aid to them in perfecting these elegant dietetic preparations, which are well worth the notice of the profession.

ARTICLE 5086.

MESSRS. PARKE, DAVIS, & CO.'S PREPARATIONS.

IN a notice of Messrs. Parke, Davis, & Co.'s preparations, published in the LONDON MEDICAL RECORD of Nov. 16, we say:—'Messrs. Parke, Davis, & Co. have quite recently called attention to several improved forms of administering medicines, especially rare alkaloids and glucosides. Their gramme tubes or vials of colchicine, convallamarine, daturine, hydrastine, napelline, muscarine, picrotoxine, and veratrine are well worthy of attention.'

We have since received a communication from this firm stating that they do not prepare these gramme tubes of colchicine, &c.

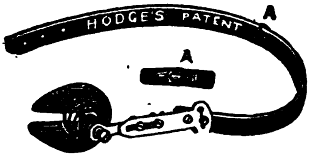
M. CORLIEU, librarian at the Paris Medical Faculty, has just published a volume containing a collected series of his articles which had previously appeared in a medical journal. The volume is entitled *Les Médecins Grecs depuis la mort de Galien jusqu' à la chute de l'Empire d'Orient.*

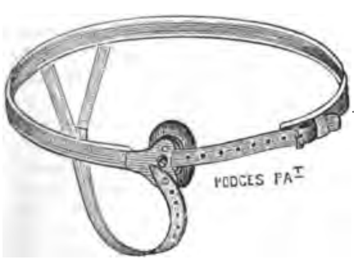
NEW INVENTIONS.

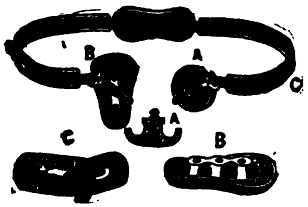
ARTICLE 5087.

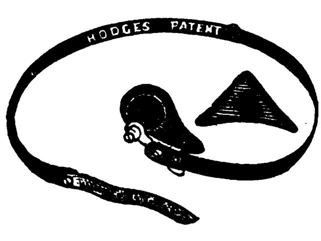
HODGE & CO.'S NEW TRUSS.

THE spring of this new contrivance is disjointed in the middle, to allow any desired degree of expansion, according to the breadth of the patient's hip; but the joint is so constructed as to be readily adjusted and firmly fixed, without impairing the elasticity of the whole spring. The pad is a rubber disc convex on the surface to be applied over the site of the protrusion, which is thereby subjected to gentle steady pressure, without any risk of the hernial opening becoming dilated, as may occur when a conical pad is employed. The pad is perforated for purposes of ventilation; its back is concave, bearing in its centre a prominent stem or pedicle. A short piece of steel is fitted, by a screw at each end, into this stem and into the extremity of the spring of the truss, so that the pad can be adjusted at any angle to the spring. At the hinder extremity of the spring is a wide soft leather pad. This truss is of ingenious construction, light and strong. We understand that it has given great satisfaction to several surgeons, who have recommended it, and to numerous patients by whom it has been worn. The maker is Mr. Hodge, truss and surgical appliance manufacturer, 18 James Street, Oxford Street.









ARTICLE 5088.

A NEW STAMP DAMPER.

WE have received a very neat little invention for affixing stamps to letters, thus obviating the unpleasant necessity of using the tongue for damping the postage stamp. The little arrangement is made in polished brass, so as to be as ornamental as it is useful, and is to be had at a very moderate price from the Herald's Office, Perth. The neatness and efficiency of this useful little addition to the writing table are doubtless due to the fact that it is the invention of a well-known medical practitioner in Perth, who has realised the inconveniences of the somewhat primitive plan generally adopted in affixing stamps to letters, &c.

ARTICLE 5089.

THE PALLAS SYRINGE.

THIS is an ingenious and effective form of vaginal syringe for irrigating the vagina or rectum. It is filled by unscrewing the bulb containing the fluid to be injected. It is so constructed that, when the tube is in the vagina or rectum, if the syringe is pressed against the external parts, the fluid may be sucked back into the bulb, thus enabling the patient to thoroughly irrigate the vagina with one injection. It is a useful instrument and will be a formidable rival to the ordinary vaginal douche.

ARTICLE 5090.

BOUDET'S GALVANO-THERMIC EXCITOR.

THE galvano-thermic excitor invented by M. Boudet, of Paris (*excitateur galvano-thermique*), consists of two concentric discs charged with positive and negative electricity. It produces a local effect, and the disposition of the poles renders diffusion of the current impossible. If, as in a case of intestinal occlusion, it be necessary to diffuse the current, a hollow mandril, charged with negative electricity, is placed in a sound which is passed into the intestine *per rectum*; the saline solution, which passes through the mandril, is charged with the same electricity and communicates it whenever it is in contact with the mucous membrane; the positive pole is applied to the dorsal or the abdominal region. The same disposition is maintained for the bladder, but the mandril is replaced by a thin metallic thread.

ARTICLE 5091.

A NEW THERMOMETER.

A THERMOMETER has been made in Dr. Gassler's workshops at Bonn, which can be tested by the person who makes use of it. The lower part of this instrument is graduated from 2° to + 2° C., divided in tenths of degrees; this graduation is separated from the upper graduation by an S-shaped curve, which prevents the indicator from entering the reservoir. In order to ascertain if the thermometer be correct, it is necessary to plunge the reservoir into a glass containing broken-up ice, and then carefully note where the mercury stops; the necessary correction is easily measured. This thermometer can be used to control other instruments of the same kind.

M. SOCQUET's statistical work on suicide and crime in France has been honourably mentioned by the Académie des Sciences.

MISCELLANY.

New Otoscope.—M. Gellé has presented to the Biological Society of Paris a new form of otoscope invented by him. It consists of an India-rubber tube, 30 or 40 centimètres long, instead of fifty; to which is fitted a glass tube 10 or 12 centimètres long. This instrument isolates the auscultator from contact with external noises.

Dr. Normand, in a communication to the Académie des Sciences, states that the mucus of dysentery always contains a specific microbe, which has been observed by others, but has not hitherto been considered to be an important agent in the etiology of dysentery.

At a recent meeting of the Medical Society at Vienna, Dr. Kaposi showed a little girl attacked by pigmentary xeroderma, a very rare disease, which he described for the first time in 1870. It is observed in children of one year old, and at the beginning of the second year.

M. Loewenberg, of Paris, treats suppuration of the mastoid apophyses by facilitating the escape of pus, either by puncturing the tympanum, or by increasing the existing perforation by using the galvano-cautery. He insists on rigid antiseptic treatment being observed, and forbids trepanation unless a sequestrum exists, and all other means have failed.

Poisonous Mushrooms.—A family named Albernac, of the Commune of Hostens, in the Gironde, have been poisoned by mushrooms. A passing postman told the neighbours he had heard wailings of distress, and on seeking the reason they found the father writhing in intense agony, the mother and daughter dead. The father succumbed shortly after.

At a recent meeting of the Académie des Sciences, M. de Lacaze Duthiers mentioned some researches by M. Herman Fol on hydrophobia. This observer has isolated a microbe which he believes to be specific to hydrophobia. Inoculation with this microbe in the orbit produces hydrophobia, and the inoculation period is shorter than with M. Pasteur's method.

Intracranial Tumours.—A discussion will be opened at the Pathological Society of London, at the first meeting in February 1886, on intracranial tumours (including cysts and gummata), with especial relation to their nature, situation, size, probable duration, the age at which they occur, the number of tumours present in the brain, the presence and situation of secondary tumours. It is desired that the discussion may be illustrated by as many specimens as possible, and by pictures and diagrams.

Herr Oppler has by experiments ascertained that roasted coffee acts on iodoform as an active deodoriser. As roasted coffee is a powerful disinfectant, it has, in combination with iodoform, an excellent influence in promoting cicatrisation. Herr Oppler recommends the following formulæ: Iodoform (pure), 50 grammes; roasted coffee in very fine powder, 25 grammes; a few drops of spirits of ether; or iodoform (pure), 2 grammes; paraffin, 10 grammes; roasted coffee in fine powder, 0·3 gramme.

A Collection of Skulls.—The Natural History Museum at Vienna has been presented with 708 skulls collected through a series of years by Dr. Weissbach, who was for a long time director of the Austro-Hungarian Hospital at Constantinople, and was a very distinguished anthropological investigator. Of the collection 195 are pure Turkish skulls, 131 Greek, 96 Servian or Croat, 48 Hungarian, 43 Armenian, 29 old Byzantine. There are also skulls of Maronites, Albanians, Koords, Asiatic Jews, &c.

A new article for dressing wounds, called 'Taffetas Berthault,' has just been brought out, which is considered to be superior to the adhesive plasters hitherto used. It is as transparent as glass, and as thin as the skin of an onion. The condition of the surface covered by it is as easily seen as though it were uncovered. This plaster is as elastic as India-rubber. It cannot be traversed by fluids, and is unaffected by change of temperature. Chemically it is inert, neither changed by acids, alkalies, nor the secretions of the human organism.

MM. Henneguy and Vignal, at a recent meeting of the Biological Society, presented a modification of the new Cambridge rocking microtome. In the original model it was necessary to count the notches in order to ascertain the thickness of the section, and the position of the embryo placed on the instrument could not be changed. In the modified instrument, by the aid of an indicator moving along a graduated circle attached and dependent on a regulator, the thickness of the section is at once ascertained. By means of a holder, capable of being moved on three different axes, the specimens studied can be moved in any direction.

Filtering Paper as an Antiseptic Dressing. M. Bedoin stated to the Belgian Royal Academy of Medicine that he believes he has found a simple portable, inexpensive, antiseptic method of dressing wounds suitable for the wounded on battle-fields. He recommends the unglazed paper used for filtration. This is disinfected by being placed in a stove at 120° C. (248° F.), and immediately afterwards steeped in an antiseptic substance, then slowly dried. Seven or eight sheets of this paper are superposed on the surface of the wound, and then lightly bandaged. This dressing weighs about forty grammes, so that every soldier can carry one in his knapsack.

A New Health-Resort.—Ten years ago, Dr. Douillard pointed out that the valley of Argèles was remarkably well suited for a sanitorium, where children of parents who had succumbed to phthisis should be treated. A few years later, the town of Argèles offered a building site for this purpose. The sanitorium now receives yearly twenty children, between the ages of five and twelve, all orphans of phthisical parents, and presenting symptoms of the same disease. They all improve in condition. The sanitorium is situated at an altitude of 450 mètres, on the highest ground in Argèles. The temperature resembles that of Amélie-les-Bains, but is less exposed to the east and west winds. The hygrometric condition is excellent. The climate is most suitable to the torpid forms of tuberculosis.

The Bacillus of Syphilis.—Herr Carl Weigert, of Frankfort, supports the view of Lustgarten concerning the bacillus of syphilis and smegma, and believes that the bacillus discovered by him is the contagious element of the disease. Dr. Weigert admits that the researches of these writers are confirmed by subsequent researches by Dr. Klempern, and are arguments against attributing a specific pathogenic character to Lustgarten's bacillus. But the fact that this bacillus is found in the interior of cells, in the substance of tissues, and in regions which are never brought into contact with the smegma, coupled with that of its behaviour, when submitted to the influence of certain reagents, which affect only a few micro-organisms, are sufficient indications of the specificity of Lustgarten's bacillus.

Charcot's Bone-Disease in the Vertebræ.—At a recent meeting of the Paris Biological Society, MM. Pitres and Vaillard showed an anatomical specimen, which demonstrated that the trophic affections, described by M. Charcot, can also take place in the vertebral column. The patient exhibited symptoms of motor incoordination in 1881. In 1883 he was unable to walk; he was free from pain, but said he felt as though his hips were dislocated. The spine became curved in the lumbar region. There was a posterior convexity on the left side, and the waist gradually grew smaller by 23 centimètres. The lumbar vertebra was entirely destroyed; the second presented a collection of osteophytes. The pelvis and femur had similar lesions.

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The London
Medical Record

A MONTHLY REVIEW OF THE

Progress of the Medical Sciences and of
Subjects relating to Public Health

EDITED BY ERNEST HART

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ARTICLE 5092.

CONTI ON PRIMARY BRONCHO-PULMONARY ACTINOMYCOSIS IN MAN.

DR. P. CONTI gives (*Gazz. Med. Ital. Lombardia*, Dec. 5, 1885) the history of a case of this disease, the first of this form observed in Italy. He has also collected sixteen published cases, almost all from German sources; and from the study of these he is enabled to give a complete description of the disease. He distinguishes four stages:—1. circumscribed broncho-pneumonitis; 2. peri-bronchitis and consequent interstitial pulmonitis; 3. pleuritis under one of its accustomed forms; 4. and finally, peripleuritis resulting in abscess.

The onset of the disease is, as a rule, insidious. The actinomyces reaching the air-passages by inhalation or aspiration from the mouth, owing to its almost microscopic size, fixes itself in the smallest divisions of the bronchial tubes. A circumscribed irritative process is set up, purely mechanical in nature, giving rise to few symptoms, perhaps some cough, with scanty expectoration, to which neither the medical man nor the patient may attribute much importance. Even at this stage, however, the disease might be recognised if the sputa were examined, when the characteristic granules would be found. In the second stage, consolidation of the pulmonary parenchyma commences; and later, limited foci of fusion of inflammatory products are found; the cough is more troublesome, and the expectoration is more abundant, and perhaps rusty; there may be slight fever; by percussion and auscultation the site of the disease may be made out. The symptoms probably now lead to the diagnosis of pulmonary tuberculosis; and, in fact, it is only possible to come to a right conclusion by the examination of the sputa, when the granules of actinomyces are easily recognised, while no tubercle-bacilli are to be seen. The process extending by continuity of tissue, we arrive at the third stage. Several of the cases seem to have commenced at this stage, and Ponfick admits that actinomycosis may be primarily pleuritic. It is, however, difficult to conceive how the actinomyces can enter directly the pleura; it is more probable that the pleuritis appears primary because its symptoms are severe and unmistakable, while the comparatively trifling symptoms of the preceding bronchitis may have attracted little or no attention. But, on the other hand, it is not in contradiction to the teaching of experience to suppose that in certain cases, in which all traces of a broncho-pneumonic process have been wanting, the initial lesion may have disappeared, as happens with the cutaneous wound in inoculation. But, however this may be, the pleuritic process may show itself in various forms. Often there is an adhesive circumscribed pleuritis; sometimes it is sero-fibrinous with abundant exudation. If the pleuritic irritation proceed from the rupture of a small pulmonary abscess into the serous cavity, the pleurisy may be purulent from the first. The form assumed by the pleuritis probably depends greatly on the more or less healthy condition of the pleura at the moment of attack. Finally, even the costal pleura does not form the limit of the extension of the parasite, which, invading the parietal wall of the thorax, sets up a peripleuritis. This culminating symptom, with its indolent œdematous tumefaction, is typical, and often the first symptom to arouse the suspicion of actinomycosis. The tumour is slow in growth, is for a long time elastic, becomes fluctuating later, and always in circumscribed points; finally, it attacks the skin itself, and the pus is discharged externally. The pus is generally small in quantity, and healthy looking, but with a characteristic and disagreeable odour. The infiltration tends always to spread, and its work of destruction is only put an end to by the death of the patient from exhaustion or some complication.

Among the complications due to the actinomyces itself, is metastasis; if the parasite encounter in its course a blood-vessel, or even the heart, it invades it, and gives rise to embolisms more or less grave. Such is the course of the disease, which may take some months to run; generally death occurs from exhaustion about the tenth month.

The author then discusses the diagnosis, and, remarking that this is easy enough if the pathological products eliminated be examined, he dwells especially on the conditions which should excite our suspicions of actinomycosis. This should be the rule in every case of bronchial catarrh in which the sputa are scanty, emit a disagreeable odour, and are gelatinous in appearance (like red-currant jelly); in bronchial catarrh simulating pulmonary tuberculosis, yet running an apyretic course; in all cases of alteration of the shape of the thorax coming on slowly, and without marked symptoms, especially if acute pleurisy of the same side supervene; in cases of acute pleurisy preceded for a longer or shorter time by bronchial symptoms, however mild; above all, in those cases, in which in the course of chronic broncho-pulmonary symptoms, extraordinarily painful phenomena arise, and in all tumefactions of the chest-wall wherever situated. If our suspicions be once aroused, nothing is easier than to verify them; careful examination of the sputa decides the question at once. From 'putrid bronchitis,' broncho-pulmonary actinomycosis is distinguished by the scanty dense sputa, only dividing into layers after long standing and the onset of putrefaction; it then separates into two strata—the upper, fluid, limpid, slightly denser than water; the lower, formed chiefly of the solid elements. The sputum, too, is rusty or pneumonic, and has a disagreeable smell, which, however, is not gangrenous. Under the microscope, muco-pus, pulmonary epithelium, and abundant cylindrical epithelium, and actinomyces are found. The general condition is fairly good, with no septic fever or diarrhœa, &c. The appearance of peripleuritis further distinguishes it. From pulmonary tuberculosis it is distinguished by the catarrhal phenomena being limited, the left side being most frequently affected, in the posterior part of the lower lobes; by its apyretic course when there are no complications. Wasting is very slow; the sputa are pneumonic; there is no hæmorrhage or elastic fibres. Intense neuralgic pains occur. Peripleuritis and abscess occur; actinomyces are found in the sputum and Koch's bacilli are absent. From pulmonary cancer, examination of the sputa can alone distinguish it; the symptoms are very similar. From intercostal neuralgia and sternalgia, and from acute pleurisy, the preceding broncho-pulmonary symptoms sufficiently distinguish it. Resolution may take place on the eighth or tenth day, but symptoms of peripleuritis remain, or appear shortly afterwards. From chronic forms of pleurisy, it is distinguished by the deformity of the thorax appearing almost without symptoms, perhaps only recognised in the occurrence of acute pleurisy; chronic pleurisies, too, are generally secondary, so that the history of the case may be a guide. Empyema may arise, as we have seen, in actinomycosis; in the simplest cases it is possible to make out that the parietal swelling is formed gradually over a localised pleuritis, with scanty pleuritic collection. In actinomycosis, the fever attending a visceral suppuration will be absent. The sputa will in all probability contain actinomyces, while the parietal swelling remains for a long while without giving rise to acute symptoms; it is very little sensitive, non-fluctuating, and weeks or months may pass before the skin is involved and the abscess points. In doubtful cases, an exploratory puncture may be made, when, instead of the abundant pus of empyema, only a few drops of characteristic pus will be obtained. The cannula of the trocar will not be found to move freely in the cavity, as in empyema. In peripleuritis, the suppurating cavities are always small. In the case of solid tumours, osteo-sarcoma or enchondroma, the difference of consistence alone, and the limitation of site, are sufficient criteria of differential diagnosis. In caries the distinction is more puzzling, but inflammatory affections of the ribs usually have a traumatic origin; in actinomycosis, there will be intrathoracic physical signs. In spondylitis with abscess doubt may occur, but this chiefly affects the young, and has a constitutional or traumatic origin; spinal symptoms soon show themselves, and, when tumefaction occurs, it is easily recognised as a collection of pus, while in actinomycosis the tumour is firm and elastic. In all these cases the history helps us, and in actinomycosis the parietal lesion can hardly exist without more or less significant pleuropulmonary symptoms. Pyæmia rarely gives rise to cutaneous abscesses; the history here also is a guide, and the examination of the evacuated pus can leave no doubt as to the nature of the case. In visceral metastasis, the diagnosis must depend on the diagnosis of the primary focus; the migrating fungus carries with it elements of pus, and not only produces a new actinomycotic, but a pyæmic focus as well. In fact, the visceral metastases of actinomycosis become rapidly so many abscesses, which frequently, on arriving at the surface of the organ, break into some serous cavity, pericardium, pleura, or peritoneum, and set up a fatal inflammation.

The prognosis, from what has been said, is, of course, the gravest. Nor does treatment, so far, seem of much avail. It is to be hoped, however, that modern surgery may apply to this disease those methods of cure suggested for pulmonary phthisis. In actinomycosis it will have an easier task, perhaps leading to more brilliant results, seeing that the disease is generally circumscribed and local, the lower lobes of the lung only being affected; its course is slow, and the diagnosis of its site and nature easy.

G. D'Arcy Adams, M.D.

An institution named the Pasteur Institute, has been opened at New York, for the purpose of affording every means of studying rabies and all diseases that can be cured by inoculation.

Article 5093.

ALBERTONI ON THE ACTION AND METAMORPHOSIS OF SOME SUBSTANCES, IN RELATION WITH THE PATHOGENESIS OF ACETONÆMIA AND DIABETES.*

After Patters in 1857 pointed out the formation of acetone in diabetes, this substance acquired much importance as a poisonous material capable of producing auto-intoxication. Nevertheless, the poisonousness of acetone, though admitted by physicians, did not rest on a basis of precise experiments. According to Prof. Albertoni, acetone, when pure, produces general phenomena like those given by ethylic alcohol; and taken by the stomach is less poisonous than the latter. Only in some cases the phenomena of diabetic coma are like those produced by acetone.

If large doses of glucose (100 grammes) be given to rabbits, acetone is not found in the urine. Isopropylic alcohol is in part converted in the organism into acetone, and in part it is eliminated unaltered.

When a man takes more than six cubic centimètres of acetone by the mouth, it can be found unaltered in the urine. To detect it, the urine, slightly acidulated with sulphuric acid, is distilled. The distillate gives with caustic soda and a solution of iodine in an iodide, a precipitate of iodoform. This reaction is given also by many other bodies. The following is a more special test. To the distillate is added a little sodic nitroprussiate and caustic soda. If there be acetone, a clear red colour shows itself, which passes to purple on the addition of acetic acid.

Acetic ether does not produce phenomena that would explain diabetic coma. It produces albuminuria and hæmoglobinuria, and is certainly eliminated unchanged.

From researches hitherto performed, it appears certain that aceto-acetic acid frequently appears in diabetic urine, where it is revealed by the red colour it gives with perchloride of iron. This colour, however, is not obtained if the urine be boiled or treated with acids. Nevertheless, this acid is well-tolerated by the organism, and the possibility of its being a cause of grave intoxication may be excluded. The conditions that determine its appearance in the urine, are the reactions of this liquid and of the renal parenchyma. If the reaction be acid, the aceto-acetic acid is decomposed and acetone is found in the urine; if alkaline, the aceto-acetic acid is found unchanged in the urine. Hence the discordant results of different observers. It is probable that the formation of aceto-acetic acid explains the albuminuria that is sometimes found in diabetes.

Crotonic acid, whose presence in diabetes has been demonstrated by Stadelmann, cannot be credited with any poisonous properties. Two grammes do not provoke any ill effects in rabbits.

Crotonic aldehyde, on the contrary, even in very small doses, is very poisonous. Doses of four drops in a rabbit of one kilogramme produce at first dyspnœa with increased frequency of respiration; then difficult respiration. Breathing is noisy; the frequency of respiration gives way to diminution; there is marked general depression with lowering of sensibility; and finally narcosis. The breath also recalls the odour of crotonic aldehyde. The animal either recovers slowly or dies of general prostration. These phenomena resemble those described by Kussmaul as occurring in diabetic coma.

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* *Giorn. Internaz. delle Sci. Mediche*, Fasc. iv. 1885.

Large doses of crotonic aldehyde produce great agitation and rapid death with convulsive attacks of epileptic form.

In another paper, the author will treat of various other substances that give rise to self-intoxication.

William R. Huggard, M.D.

Article 5094.

PAVY ON THE CLINICAL ASPECT OF GLYCOSURIA.

In the *Brit. Med. Jour.*, December 1885, p. 1049, is published a paper on the subject of glycosuria by Dr. Pavy.

The author commences by giving a table of 1,360 cases of diabetes, showing the age at which the disease set in. Between the ages of 40 to 60 years, the number of cases was nearly fifty-six per cent. From this period, there is a sharp and increasing fall in both directions. There is no doubt that the disease runs in families. In support of this fact, the author records many instances. In one case it was ascertained that the patient's mother had died from the same complaint, and on examining the urine of four of this patient's children sugar was found in three. This disease is more common amongst the Jewish race, and in them more amenable to treatment.

As to the mode of onset, it may be gradual, or it may be quite sudden. A fact worth remembering is that the urine of diabetic patients leaves a white stain, especially on dark trousers; and it is well known that hotel servants, who have to brush clothes, can often detect a diabetic patient by the difficulty they experience in brushing out stains on the trousers. The duration of the disease is very variable. It may go on for years, especially in elderly people, or it may terminate fatally in two or three weeks. Although diabetes, when once developed, generally persists, cases occur where it has disappeared entirely. Again, sugar may be only temporarily present in the urine. A patient may have a large quantity of sugar in the urine for a short time, and may never have any traces of it afterwards.

Diabetes insipidus and diabetes mellitus may exist together, and can be proved in the following manner. If a patient, who is suffering from thirst, be passing a large quantity of urine containing sugar, but in whose case the amount of urine is found to be out of the usual proportion to the sugar present, be put upon a strictly diabetic diet, with the result that the sugar entirely disappears, but the large quantity of urine is still daily passed, then it shows that the diabetes mellitus has been got under, leaving the diabetes insipidus. In the ordinary form of diabetes, the quantity of water passed stands in relation to the amount of sugar eliminated. The author goes on to say that he has found in several cases a hypertrophic state of the liver.

As to the abnormal conditions of the nervous system, Dr. Pavy is perfectly satisfied that certain symptoms of disordered nerve-action, especially spinal, are very apt to accompany diabetes, and considers that there is some connection between ataxy and diabetes. They sometimes come on together, sometimes the ataxy precedes the diabetes, or *vice versâ*. Another disease which is often seen in connection with diabetes is exophthalmic goître. The author has no belief in the theory involved in the term 'acetonæmia.' The well known comatose state of diabetic patients arises from a deprivation of power in certain nerve-centres, which fatigue, or anything which tends to throw the patient off the balance, will tend to produce. Dr. Pavy does not believe the coma to be due to the action of any direct poison in the circulating fluids. The fatty condition of the blood in these cases is merely a physiological state, and will not explain the coma. Patients suffering from diabetes may have albumen present in the urine for years without any serious results; and, when it is present in small amount, it is of no serious significance. Some cases exist, however, which pass on to well-marked Bright's disease; and it is worthy of notice that generally, as the Bright's disease becomes established, the diabetes shows a tendency to subside.

The author concludes by stating that his remarks are founded exclusively upon information derived from his own experience.

Richard Neale, M.D.

Article 5095.

WYSS ON RESORCINE IN THE TREATMENT OF ECZEMA.

Dr. A. Wyss, of Geneva, communicates an original paper on this subject in *Der Fortschritt* of Jan. 5, 1886.

In the treatment of eczema, the author remarks, the most manifold remedies have been employed, as to the intrinsic value of which dermatologists still differ, much to the embarrassment of the practitioner, who would prefer to have the same preciseness of therapeutic principles employed in dermatology as in the treatment of other diseases. As long, however, as this is not realised, the trial of such new remedies is justified, the physical, chemical, and physiological properties of which seem to indicate and to promise curative virtues. From this standpoint, Dr. Wyss propounds the use of resorcine in the treatment of eczema, having been convinced by a series of observations that its judicious selection may lead to successful results.

In the treatment of eczema, two questions invariably become of paramount importance: 1. Is the eczema acute or chronic? 2. With which stage of the eczema have we to deal?

These questions ought to be carefully decided, not only in every individual case, but also in every single localisation of the eczema in the same patient. In one part of the body, the eczema may perhaps already have reached the stage of desquamation; whilst in another it is still in the papular state.

Remedies beneficial in chronic eczema may frequently prove injurious when employed in acute eczema. Here the condition is much the same as if the different forms of pharyngitis were uniformly to be treated with swabbings of iodine; a practice frequently equally injurious to the patient, and detrimental to the reputation of the medical attendant.

During the acute stage of eczema, all active remedies may generally be dispensed with. 'To leave alone,' says Rayer, 'is the best treatment of acute eczema.' As a rule, all kinds of irritants, particularly bathing with cold water, ought to be avoided. Subjective symptoms, as pain, itching, &c., are best allayed by powders or alcoholic lotions with camphor, carbolic acid, chloral, menthol, cucaine, &c. The sore places during the humid stage (eczema madidans, humidum) are dressed with desiccating powders.

During the stage of desiccation, nothing else, generally, will be required but emollients, oils, glycerine, or ointments. One of the most favourite ointments is that of Wilson, consisting of: Pulv. benzoes ʒjss.; adipis suilli ℥vss. Digere, cola et adde Zinci oxydati ʒvij.

The treatment of chronic eczema requires: 1. the removal of the scales and scabs, which form on the diseased places; (2) the desiccation of discharging places; and (3) the diminution and suppression of the infiltration, hyperæmia, and desquamation of the skin. The secret of successfully dealing with eczema lies in the selection, in every individual case, of such remedies and methods of treatment as best meet these indications, and in persevering in the employment of these.

After this cursory survey of the general therapeutics of eczema, and a description of the properties of resorcine, Dr. Wyss states that having lately suffered from carbol-eczema of both hands, he used, for the purpose of allaying the unbearable itching caused by the eruption of vesicles and the swelling of the skin, an ointment of vaseline with 10 per cent. of resorcine. The effect was surprising, the itching being arrested immediately after each application. The pruritus from the final desquamation likewise ceased after the use of the same ointment. These beneficial effects, experienced by himself, induced Dr. Wyss to try resorcine on other persons. He employed it in the form of a powder with rice-meal, Venetian talc, &c.; *e.g.* rice-meal, 20 grammes (ʒvj.), resorcine, 2 to 5 grammes (ʒss. to ʒjss.). The only drawback of these preparations in respect of preservation consists in the great hygroscopic property of resorcine. He also used it as a solution in oil (which, however, dissolves but a comparatively small quantity of resorcine): resorcine, 1 to 2 grammes (15½ grains to ʒss.); olive-oil and almond-oil, of each 25 grammes (ʒvjss.); also as a solution in glycerine (5 grammes in 20), and water; and in the form of an ointment (3 to 5 grammes in 20 grammes of yellowish vaseline or lard). These preparations have been principally employed in eczema of the nose, of the face, of the ears, and in two cases of eczema of the extremities.

The following are the general effects of this remedy. The preparations of resorcine, especially the powders, when applied in eczema during the stage of discharge, produce, in consequence of the property of resorcine to coagulate the albumen of the secretion, a protective and disinfectant covering, which, without giving rise to irritation, stimulates the formation of epidermis, allaying at the same time both pain and itching.

During the stage of desquamation, the ointment or the glycerine of resorcine accelerates the cicatrisation of the still existing fissures of the skin. The new epidermis, stimulated by the action of resorcine, more rapidly and easily reforms, and gains its normal thickness and firmness. Several cases may serve as instances.

1. A lady, aged 30, had been suffering for more than a year from eczema of the nose. After having undergone at Neufchâtel a great variety of treatment without any benefit, she consulted the author. The eczema covered the right nostril, and was in the second stage, with abundant discharge and dried-up scabs; it blocked up the orifice of the nostril, which was fissured at the angles. Swelling and redness extended over the top of the nose. The application of different powders and ointments—(of oxide of zinc, boracic acid, naphthol, &c.) proved inert. Almost every week a new eczematous eruption formed, frequently spreading into the other nostril. On Dec. 1, treatment by daily swabbing with glycerine and resorcine commenced. The discharge was entirely arrested after ten days. Swabbing with resorcinised vaseline was continued for another week. There was no treatment from Dec. 18 to 22. When the patient left on Dec. 24, no new eruptions or scabs had formed, and the swelling and hyperæmia had disappeared.

2. A man, aged 26, had acute eczema of the orifice of the left nostril. He had been an out-door patient for more than one month, during which the eczema increased. The whole left nostril presented a discharging surface. There was painful swelling of the surrounding skin; no catarrh. Different desiccating powders failed to give relief. Once daily a kind of emulsion of resorcine with glycerine, prepared every time immediately before use, was applied. Three days after, a large portion of the discharging surface was covered with a delicate epithelial layer. After one week's treatment, the whole nostril was healed. A few days later, a new eruption appeared on the upper lip. Regular application of glycerine with resorcine was used. Desiccation took place after three days. The cure was complete.

3. A child, aged 3 years, had impetiginous eczema, covering almost the whole face for three weeks; according to the mother's statement, it still continued spreading. The dry scabs were removed, and the diseased places swabbed with glycerine and resorcine. On the next day but one, the greater part of the scabs had dropped off, leaving a dry surface invested with a red epithelial layer. Three more swabbings, applied every other day, produced complete cure.

It is possible that, in impetiginous eczema, which Kaposi and others declare to be of parasitic nature, resorcine acts also as an antiparasitic remedy.

4. A patient, aged 12, had been afflicted for several years with suppurative otitis of the right meatus, following diphtheria. From time to time eruptions of eczema appeared, involving the auditory canal and the auricle. Four more or less intense eruptions were observed during the last twelve months, when the patient was under treatment in the hospital. Each of these lasted at least a fortnight, only yielding to the daily application of boracic acid and dry dressing. A new eruption showed itself on Dec. 5. The whole auricle presented a discharging surface, which was dressed with resorcine and vaseline (1 : 4), whereby a whitish layer was produced, covering the whole diseased surface. After three days the secretion had ceased, and the auricle was covered with dry epithelium.

5. A man, aged 42, suffering from chronic eczema of both lower extremities, which presented all the different stages of the complaint, had been under the author's care during twelve months previously, during which the eruption on the forehead, the body, and the upper extremities, entirely disappeared after the use of a naphthol ointment. The eczema of the lower extremities, however, resisted every kind of treatment. The itching was so intolerable that the patient could not refrain from frequently scratching, whereby in every instance a new crop of eczema

was called forth on places where the eruption already reached the stage of desquamation. After a month's use of resorcinised vaseline, no new eruption of the eczema had taken place since, and the remnants of the former eruptions betrayed themselves only by induration and patches of pigmentation of the skin. Having no more itching, the patient no longer irritated his skin by scratching. The author explains this effect by the action of the resorcine, which, by coagulating the albumen of the exudation, closed the fissures, and invested the discharging and inflamed places with a protective covering.

These cases may suffice to demonstrate the rapid curative effects of resorcine. Dr. Wyss treated, up to the close of last year, more than thirty cases with resorcine, and invariably observed the same results, of which especially the tendency to rapid healing is noteworthy. None of the patients treated in that manner showed symptoms of intoxication or renal irritation, as had been observed after the internal use of doses above three grammes (forty-six grains). The stages of eczema in which resorcine proves most beneficial are that of exudation, when the congestion and inflammation of the skin already have abated, and that of desiccation, when generally there are still some discharging places and fissures underneath and between the scabs and scales.

Ferd. Adalb. Junker, M.D.

Article 5096.

HEYMANN AND BRESGEN ON POISONING BY CUCAINE.

Dr. P. Heymann, in the *Berliner Med. Wochenschrift*, No. 46, 1885, and Dr. Maximilian Bresgen, in the *Deutsche Med. Wochenschrift*, No. 46, 1885, report cases of poisoning by cucaine, which have been reproduced in the *Centralbl. für die Gesammte Therapie*, 1886, No. 1.

Dr. Heymann's case, which was described at a meeting of the Medical Society of Berlin, is as follows. A boy, aged 9½, suffered from papillomatous growths in the larynx, which had been repeatedly extirpated —once under the influence of cucaine; they rapidly reappeared, and required another operation. In order to produce local anæsthesia, Dr. Heymann resolved to bring the fauces and the larynx completely under the action of cucaine. As at the previous operation, so also at this, an exceptionally large quantity of this drug was needed ere the desired effect took place. Five grammes (℈iv.) of a 20 per cent. solution, *i.e.* 1 gramme (15½ grains) of hydrochlorate of cucaine were gradually applied by means of a camel-hair brush; a considerable, but not measurable quantity, was swallowed, when the patient commenced to complain of giddiness and sickness. Anæsthesia had taken place, although not yet a complete cessation of reflex movements. The morbid growths were speedily removed by aid of Krause's curette; but, before the operation was terminated, the patient began swaying in the chair. Having immediately been laid on a couch, he remained in an apathetic, semi-comatose condition for about five hours. No hallucinations were observed. When spoken to, he replied distinctly and sensibly enough, but hesitatingly, and was astonished at finding himself in a strange room. He could walk only with great effort, and when led, his gait was staggering and uncertain. He felt no desire for food, although his accustomed dinner-time had long passed. He neither complained of pain, nor of any sensation of uneasiness. The pupils were not dilated, and reacted normally to light. He was able to read without difficulty. The cornea and skin were normally sensitive to touch. The anæsthesia of the fauces gradually wore off, and had completely ceased after two hours. The frequency of the pulse, which was very strong and full, was raised to about 100, and the respiration to 30; the temperature reached 38°·2 C. (100°·76 F.). In other respects, the action of the heart and the respiration were equal and quiet. This condition continued for more than five hours; the only change being that the patient became unable to walk, and that his legs felt benumbed and not under control; after which, the frequency of the pulse and of the respiration sufficiently abated for him to be safely conveyed home to his family. On his arrival there he was put to bed, but could not sleep until after five hours, when the greater part of the symptoms (his capability of walking was not tried) had ceased, and he ravenously demanded food. On awaking on the following morning he felt quite well, although looking pale; his appetite was normal, and no disturbances of digestion were noticed.

Other cases of poisoning by cucaine, which have been brought to notice, were chiefly patients suffering from various affections—(as the cases reported by Schmidt and Rank)—or such as were under treatment for morphiomania—(reported by Obersteiner). The little patient in question was, with the exception of his local complaint, in perfect health. Whilst, in the cases above alluded to, hallucinations, fits of mania, increased reflex action, and muscular tremors, were observed, the nervous symptoms in Heymann's patient remained dormant, merely manifesting themselves by a kind of vertigo and numbness, and by impaired ability of walking. Differing from other cases, were the raised temperature and the increased frequency of pulse and respiration. No permanent injurious effects have been reported in any of these cases.

Dr. Litten, in the course of the debate on Dr. Heymann's paper, remarked that cucaine, subcutaneously administered, acts in a pre-eminent manner on the organs of circulation, heightening the pressure of the blood and increasing the action of the heart, and according to his own observations, as a diuretic, materially augmenting the secretion of urine. The patients, after an injection of cucaine, in consequence of these effects, experience an increased sensation of warmth, which frequently is felt as a very disagreeable prickling pain. He considered cucaine injections dangerous in patients suffering from nervous complaints. In these, the subcutaneous use of cucaine will produce, as a further undesirable effect, great dryness of the throat, causing continuous efforts of gulping and swallowing. Taking advantage of this effect, Dr. Litten used it with the view of arresting superabundant salivation.

Boecker likewise noticed in some cases troublesome concomitant effects, which led him to a modification of the usual mode of application. He places a few drops of a 20 per cent. solution of cucaine on the back of the laryngoscopic mirror, and touches the larynx with a probe charged with the same solution. After six or seven touches, sensibility will be so far reduced as to permit the introduction of the instrument. By this method only very exceptional instances of troublesome regurgitation and retching occurred, which at the following examination were almost entirely absent.

Dr. M. Bresgen points out that the anæsthetic effects of cucaine on mucous membranes undergo many modifications in individual cases. Moreover, in the same person the same local effects do not always and invariably take place, notwithstanding that the identical preparation and method have been employed. Idiosyncrasies and dispositions play a prominent part. The same may be the case with the symptoms of internal poisoning, when, what undoubtedly is most important, cucaine has been introduced into the stomach.

When bringing the nose and the throat under the action of cucaine, also when employing solutions of 10 per cent. and 20 per cent. of Merck's preparation, the soluble hydrochlorate of cucaine, Bresgen frequently had occasion of observing moderate and rapidly passing symptoms of poisoning, viz., sensation of coldness and abnormal paleness of the whole body, and slight giddiness. The conditions described by the patients as nausea and irritation to vomit, appear not to be due to the poisoning, but to the anæsthesia of the fauces. There is a sensation as if something ought to be ejected, but all the efforts of doing so remaining resultless, only the movements of retching are produced. Actual vomiting, even in the cases of severe poisoning after cucainising the nose, of which anon, never came under Dr. Bresgen's notice.

He describes the details of only two cases of which he himself has taken accurate notes; several other, but less severe, cases occurred in his practice, but only partially remained under his own observation. The symptoms of these corresponded with those of the first-mentioned cases, only differing in degree. He states that he has had fewer occasions for cucainising the mucous membrane of the fauces and of the larynx than that of the nose, wherefore the graver symptoms of poisoning relatively more frequently happened in the latter cases. In one case of polypus of the larynx, in which 4 decigrammes (7 grains) of Merck's hydrochlorate of cucaine in a 20 per cent. solution [hydrochlorate of cucaine 1 gramme (15½ grains), alcohol 2 grammes (ʒss.), distilled water 3 grammes (℈ijss.)] had been used, only moderate symptoms of poisoning occurred, which had already passed off after several hours. Dr. Bresgen, some time ago, exceptionally used, for cucainising the nasal mucous membrane, an alcoholic solution of 20 per cent. of Merck's soluble hydrochlorate of cucaine, whilst he generally had employed a 10 per cent. aqueous solution of the same preparation. He tried it on himself and on his wife, applying it by means of a small probe, to the point of which a loose pear-shaped pellet of cotton-wool, about 1 centimetre ($\frac{8}{16}$ of an inch) in thickness and taking up one minim of the solution, was fastened. Each minim of the 20 per cent. alcoholic solution contained 8 milligrammes (one-eighth of a grain). Between six and seven o'clock (P.M.) he applied within one hour three minims of the alcoholic solution to each of his nostrils—*i.e.* in all 48 milligrammes ($\frac{3}{4}$ths of a grain) of cucaine; and at the time, within somewhat less than one hour, four minims to each nostril of his wife—*i.e.* altogether 32 milligrammes ($\frac{8}{15}$th of a grain) of cucaine. The poisonous effects manifested themselves more rapidly, and in a higher degree, in the lady than in himself; then the sensation of chilliness gradually increased to actual frigor; there was a condition resembling alcoholic intoxication, commencing with hilarity and excitement, followed by depression, irritation to vomiting in the throat, rigid eyes with a scared gaze, diminished mental faculties, great difficulty of speech continuing after the sensation of numbness in the throat had ceased and after deglutition was no longer impaired, insomnia, and great restlessness during the whole following night, sleep setting in only at 4 A.M. The gait was uncertain, and, when not supported, tottering. There were complete absence of appetite, and loathing of any kind of food. All these symptoms, which were much more severe in his wife than in him, continued—especially the paralytic weakness of the limbs—in a gradually lessening degree until the next day but one, whilst he suffered merely from a slight discomfort until the following noon.

Evidently a minute quantity of the solution had entered the throat, as shown by the specific sensation of numbness of the fauces. Moreover, some of the cucaine must have been swallowed with the saliva into the stomach; this at the utmost may not have been more than half the quantity of the cucaine employed—viz., 24 milligrammes ($\frac{37}{100}$th of a grain) in Dr. Bresgen, and 16 milligrammes ($\frac{24}{100}$th of a grain) in his wife. Dr. Bresgen, since this experiment, takes the greatest precautions when cucainising the nose to prevent any of the solution from entering the throat, and makes the patient continually spit out instead of gulping down. He uses the same care when applying cucaine to the fauces or the larynx; here, however, the passing of a small quantity of the poison into the stomach cannot entirely be guarded against. He does not any longer use the alcoholic solution, Merck's preparation being readily soluble in water. He applies the cucaine not by drops, but by dipping into the solution a probe armed with a pellet of cotton-wool, which renders it possible to employ much less than one minim by reducing afterwards the size of the cotton. For the fauces and the larynx he likewise uses a camel-hair brush, and in some cases, for the fauces, a long-branched tenaculum and cotton-wool.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5097.

JAECKEL ON THE TREATMENT OF MORPHINE-MANIA BY CUCAINE.

The *Centralblatt für die Gesammte Therapie*, No. 1, 1886, reproduces from the *Deutsche Medicinische Zeitung*, No. 83, 1885, a paper on this subject by Dr. Jaeckel.

The author reports four cases of morphine-mania—(three gentlemen and one lady)—which he had treated by hydrochlorate of cucaine, generally employing Merck's solution; and in which he had opportunity of studying the effects of several hundred injections of this remedy, each of which, until the complete desuetude of morphine had been realised, he mostly had followed by an injection of the latter.

In one of these cases, in compliance with the express desire of the patient, the remedy was at first administered without additional injections of morphine; but even after two days of this modified treatment, aggravated symptoms of abstinence—('Abstinenz-Symptome')—viz., vomiting, pains in the joints and extremities, especially in the calves, appeared. Although these ailments persisted with varying intensity after each omission of the injections of morphine subsequent to those of cucaine, the desuetude from taking half a gramme (7½ grains) of hydrochlorate of morphine was accomplished after six more days of treatment by combined and gradually diminishing injections, and the patient was considered fit to return to his residence. He, however, after a fortnight, had relapsed to taking 0·4 gramme (6·1 grains) of morphine, having been, according to his statement, necessitated to return to the accustomed stimulant, owing to his extreme prostration from anxiety and prolonged night-watches at the sick-bed of an only child, dangerously ill with diphtheria.

The treatment of the other three cases was carried out by combined injections consisting at the commencement of cucaine and morphine, in which the habitual dose of morphine—in neither case exceeding 0·6 of a gramme (9·25 grains)—was gradually reduced to half its original strength, in such manner, that one and a half to two graduations of a Pravaz's syringe were every other day deducted at each injection from the dose of the preceding day. In case of more violent symptoms of abstinence, the dose of morphine, more frequently that in the evening, was slightly increased. The times of the day, when morphine had previously been habitually taken, were likewise observed at the commencement of the treatment; but the number of the injections was gradually reduced to one in the morning and one in the evening, and finally to only one at bed-time.

The author recommends further trials of this method of combined injection of cucaine and morphine, having been taught by experience that by this kind of treatment the more violent symptoms of abstinence will be kept in abeyance, whilst in the one case, in which, on the request of the patient, he omitted the morphine, the very symptoms which he strove to avert were called forth in a highly aggravated degree. Such symptoms will continue in spite of the strongest injections of cucaine, if these be not combined with morphine.

As regards the specific effects of cucaine, it ought to be borne in mind that in these cases they were blended with those of morphine, and modified by the peculiar condition of the patients due to morphine-mania.

Not so regularly as the increased frequency of the pulse, but still in a majority of cases, simultaneous outbreaks of perspiration have been observed very soon after the injections. One patient, suffering at the same time from chills and perspiration (symptoms of abstinence), felt, immediately after the injection, a sensation of a warm wave pervading the whole body, whilst the perspiration instantaneously ceased.

The pupils, after a pure injection of cucaine, very promptly became more dilated than after a combined injection. One patient was enabled by this condition of his pupils to state with great precision whether morphine had been injected with the cucaine, but he could not distinguish a pure injection of cucaine from a pure injection of morphine. To this patient, after the injections, reading became difficult; the letters appeared confused; he was obliged to strain unduly his power of accommodation, until increased lacrymation made him desist from further efforts.

Sensations of exhaustion and faintness have been frequently observed, but not in all patients, during this treatment. In one case, these sensations occurred about half an hour after the injection; and it was noticed that the artificial frequency of the pulse, caused by the injection, simultaneously fell off with the appearance of these symptoms, and the pulse showed a slowly rising, but at the commencement very feeble, curve. With the gradually reduced injections, also, the specific effects of cucaine became more indistinct, and the general condition of the patient more normal.

The author never noticed icteric discoloration of the skin or thick coating of the tongue (as stated by Wallé), although he once injected as much as 45 milligrammes (seven-tenths of a grain) during twenty-four hours.

Cucaine, during the treatment, beneficially influenced the sleep. Several hours of rest were always obtained, and during the whole cure not a single night was passed sleeplessly. The appetite never entirely failed, as in other methods of weaning, but, as a rule, savoury stews, seasoned and acid dishes, and salads, were preferred. Digestion was likewise less impaired, and attacks of diarrhœa occurred merely isolated. More persistent were in one case colic pains, probably due to the patient's former habit of taking morphine by the mouth. Extraordinary garrulity, apparently on favourite subjects and pursuits in former days of health, was observed in one case. Two patients, on the contrary, continued taciturn, and shunned companionship during the whole treatment. One patient stated that he was continually haunted by the recollection of an important event of his life, of which he had no longer thought these last eight years. Similar compulsory thoughts ('Zwangs-Gedanken') came likewise to the author's notice during the treatment, without cucaine, of morphine-mania. Dr. Jaeckel's observations are not materially different from those of Erlenmeyer; the few unimportant variations being due, according to his opinion, to his having employed larger doses.

As regards self-treatment in morphine-mania, the author states that no successfully achieved self-cure has come to his knowledge; on the contrary, many a failure. Self-treatment is not to be advocated, because the patients, even if they be medical men, are not capable of forming an unbiassed objective opinion on their own condition; and, moreover, because the patient will enjoy a greater mental tranquillity, which is an essential aid for a speedy cure, while feeling himself free from personal responsibility and being conscious that the duty and honour of his medical adviser are staked in his welfare. Dr. Jaeckel does not consider the mere weaning from the habitually misused morphine alone as the principal condition of a perfect cure; he lays great stress on the necessity of a longer continued control in a proper institution (*Maison de Santé*) after each treatment, in order to guard the patient as much as possible against relapses. Erlenmeyer likewise contends, in his work on morphine-mania, that the longer a patient, after complete desuetude, continues under control in an institution, the more favourable will be in general the prognosis. He does not deny, under exceptionally favourable circumstances, the possibility of a successful weaning treatment outside an institution; but he most emphatically refutes Wallé's opinion, who declares the treatment in institutions not only unnecessary but even injurious.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5098.

PROGRESS OF PHARMACOLOGY IN 1885.*

It is worthy of note that, among the substances that have been put forward during the past twelve months for the relief of the ills to which flesh is heir, definite chemical principles, several of them being synthetically prepared compounds, have taken a prominent, if not predominant, place. Before passing to them, however, it will be preferable to deal with the cruder portion of the materia medica. One very powerful argument in support of the establishment of a pharmaceutical research laboratory, is to be found in the very imperfect state of existing knowledge respecting some of the longest used drugs. Take, for instance, rhubarb root, of which both aqueous and alcoholic preparations are official. Yet, according to the researches of M. Kubli, very much of the activity of the preparation may depend upon the menstruum with which the drug is exhausted; and he seems to think that contact with water may bring a good sample of rhubarb down to the level of an inferior one. The ground for this opinion is the observation that there is present in the root a non-organised fermentative principle, which in the presence of water attacks and breaks up the glucosidal chrysophan, with the formation of chrysophanic acid and sugar. If, therefore, as is supposed by some, it be desirable that chrysophanic acid should be ingested into the stomach in the 'potential' form, it is desirable to ascertain the exact conditions under which the ferment in question can be prevented from acting upon the chrysophan. In like manner, the experiments of Mr. Stockman upon senna leaves point to the probability that, so far as the activity of preparations of the drugs depends upon cathartic acid, it is likely to be affected by the application of heat; since he found that a temperature considerably below 100° F. is sufficient to decompose the acid, which is a glucoside, whether in acid, neutral, or alkaline solution. When cathartic acid is treated with dilute mineral acid, several decomposition-products are formed, one of which appears to be closely allied to chrysarobin.

Similarly considerable ignorance exists as to the formation of alkaloids and other active principles in medicinal plants; and M. Lepage has done good service in contributing to the history of the conium alkaloids. He confirms the generally received opinion that relatively a small quantity of alkaloid is contained in conium root, but states that the roots of first year's plants collected in September were found richer than other roots. The largest quantity of coniine was obtained from the fruit, and a considerable quantity was found in oil derived from the stalks, leaves, or fruit. According, however, to Herr Merck, who speaks with experience as a manufacturer, sometimes conium seed will yield very little coniine and more than the usual quantity of conhydrine, whilst sometimes the yield of both bases is small. As to whether this is due to the degree of maturity of the seed, or to the conditions of growth, he does not feel warranted in offering an opinion. In respect to the principal alkaloid, coniine, Professor Hofmann has made the curious observation that the formula long supposed to represent its composition was deficient by two atoms of hydrogen, and should be $C_8H_{17}N$, which displaced the base artificially prepared by Schiff, and supposed at first to be identical with coniine, from the position even of an isomer. A liquid alkaloid that is isomeric with coniine has, however, been prepared by M. de Coninck, by introducing six atoms of hydrogen into the molecule of collidine derived from the decomposition of cinchonine, and this 'hexahydride of collidine' is said to correspond in physiological action to the alkaloid from hemlock. Belladonna and henbane leaves, hops as well as fenugreek seeds, have been found to contain choline, a base which had been supposed to be limited to animal substances. Further, the fluorescent constituent of belladonna has been identified by Herr Kunz as a new acid that he has named 'chrysatropic acid,' which is also accompanied by non-fluorescent 'leucatropic acid,' as well as ordinary succinic acid. Even opium, which had already yielded a multitude of definite principles to chemical investigators, has been tortured by Dr. Hesse into giving up one more, which he has named 'opionin.' Some interesting observations by the late M. Aubergier also point to the probability that to some extent morphine and narcotine may replace each other in opium from different varieties of poppy. Aconite has also yielded its usual chapter upon the aconitine alkaloids, which, in the opinion of Herr Mandelin, are reducible to two, with their decomposition-products. Upon somewhat slight grounds, so far as published, he holds 'aconitine' and 'japaconitine' to be identical, both splitting up into benzoic acid and aconine, and therefore to be considered as 'benzoyl-aconine;' whilst, as 'pseudaconitine' splits up into veratric acid and aconine, he would call it 'veratroyl-aconine.' Napelline he looks upon as a mixture of aconitine and aconine. Herr Mandelin denies that aconine occurs in *Aconitum ferox* or pseudaconitine in *A. Napellus*; and of the two, in equal weights, he considers pseudaconitine to be the least poisonous, an opinion that is in accord with the results obtained independently by Mr. Madsen. From the non-poisonous aconite tubers passing in India under the name of 'wakhma,' Mr. Shimoyama has isolated an alkaloid, apparently identical with ateesine, from *Aconitum heterophyllum*; and, as the tubers pretty nearly correspond, it seems probable that wakhma is referable to that species. A fresh investigation of ergot by Dr. Kobert has added sphacelinic acid and cornutine to the stock of reputed active principles derived from this drug, and thrown doubt upon the characters of others; but neither the new comers nor Dr. Kobert's dicta have escaped challenge. Ergot freed by pressure from oil, and thus brought into a much better condition for keeping, has been experimented with by Mr. J. Moss, with results certainly worthy of consideration.

Among the more recent candidates for favour, the bark of *Rhamnus Purshiana*, now accorded a place in the *Pharmacopœia*, has been examined by Professor Prescott, who is of opinion that four resinous compounds obtained from it are all derivatives from chrysophanic acid. In respect to its constituents, it would seem to present considerable analogy to rhubarb root. Menthol has also now taken a decided place; and the large demand has raised up a competitor with the Japanese article in the form of pipmenthol, derived from the American *Mentha piperita*. Camphor-oil has evoked difference of opinion both as to its therapeutic value and the quantity of camphor it contains, and the subject has been ably discussed by Mr. P. MacEwan and

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* Condensed from the *Pharmaceutical Journal*, Jan. 2, 1886.

Mr. J. Moss; but decidedly the most interesting communication respecting it has been that of Mr. Yoshido, who has described, under the name of camphorogenol, a body occurring in camphor-oil, which appears to be capable of giving rise to a continuous formation of camphor. Eucalyptus-oil, another new introduction into the *Pharmacopœia*, has also been the subject of communications from Mr. MacEwan and Mr. C. B. Allen, which leave no doubt as to the varying nature of the article supplied in commerce under that name. A number of vegetable substances have, as usual, been put forward with more or less plausibility for medicinal purposes, among which may be mentioned 'alvelos' (*Euphorbia heterodoxa*), for the cure of cancer; 'simulo' (fruit of *Capparis coriacea*) as a remedy for epilepsy; the leaves of *Euodia longifolia* as preventive of miscarriage; *Ambrosia artemisiæfolia* and the leaves of the common stinging nettle as hæmostatics, and *Strophanthus hispidus* as a diuretic and a remedy in heart-disease.

The chemical investigation of plants and their parts as to their constituents has, indeed, shown no falling off. From *Remijia Purdieana* bark, one of the 'cupreas,' Dr. Hesse has isolated no fewer than seven alkaloids, five of which were not before known; and some further information respecting 'cupreine,' the remarkable base separated from *Remijia pedunculata* bark, the other 'cuprea,' has been afforded by Messrs. Paul and Cownley. Doundaké bark, a reputed febrifuge from the African *Sarcocephalus esculentus*, has been examined by Messrs. Heckell and Schlagdenhauffen, who attribute any efficacy it may possess to two nitrogenous resinoid principles. The seeds of the common burdock have yielded an alkaloid that has been named 'lappine.' Caffeine has been obtained from the *Ilex cassine*, the leaves of which are used as tea in the southern United States. Among other new alkaloids may be mentioned 'parthenine,' from *Parthenium Hysterophorus*, said to have proved useful in facial neuralgia; 'mandragorine,' from the *Mandragora officinalis*; a mydriatic base from 'sucupira bark' (*Bowdichia major*), employed in Brazil as a febrifuge and in gouty affections; 'lantanine,' from *Lantana brasiliensis*; baptitoxine, a powerful poison from the root of *Baptisia tinctoria*; 'stillingine,' from the root of *Stillingia sylvatica*; 'trigonelline,' from fenugreek seeds, and 'hopeine,' from hops. Glucosides have been separated from colubrina bark and cascarilla bark, and one from *Adonis cupaniana*, resembling adonidin from *A. vernalis*. Arbutin has been found in the leaves of *Rhododendron maximum* and in the *Vaccinium Vitis Idæa*. From vincetoxicum root, M. Tanret has isolated a glucoside possessing the somewhat remarkable physical property that a solution gelatinises under the influence of heat, and again liquefies upon cooling. This the discoverer was inclined to consider the type of a new class of compounds; and a similar compound has since been observed in condurango bark.

Of recent contributions to the materia medica, which have been referred to as coming from the chemical laboratory, 'antipyrine' appears to have maintained, or even improved, its position as an antipyretic, but its competitor 'thallin' has not been so much heard of. Two other compounds have been put forward recently as hypnotics. One is the ethyl ether of carbaminic acid, which has been named 'urethan;' it is said to induce sleep in doses of half a gramme. The other, 'hypnone,' is systematically described as phenylmethylacetone, aud is credited with possessing intense hypnotic properties, a dose of 0·05 to 0·15 gramme being sufficient to throw an adult into a profound sleep. Inhalations of pyridine have been found useful in asthma. 'Iodol' is the name given to a new antiseptic, described as tetraiodpyrrol, and said to be equally as effective as iodoform without its disagreeable smell. Iodoform is now prepared by an electrolytic process. Methyl-iodide has been suggested for use as a vesicant, and oxalic ether as a destroyer of tissue. Chloral-hydrate has been shown to form with carbolic acid a liquid compound comparable to that formed by it with camphor, and chloral compounds with orcin and resorcin have also been obtained.

Cucaine has come into very general use, not only as a local anæsthetic in surgical operations, especially upon the eye, but also as a topical application in affections of the throat, and it has been found useful in preventing sea-sickness. From a price of half-a-crown a grain, it has come down to one-fifteenth of that cost; and the supply of cuca leaves appears likely to be abundant enough to ensure a copious supply at a moderate rate. As regards the chemistry of this substance, an important observation has been made of its ready alteration under the influence of moisture and heat. This circumstance may account for the great differences that have been found to obtain between different parcels of cuca leaves, in the amount of the alkaloid obtainable from them. Herr W. Merck and Professor Skraup have investigated a substance obtained as a by-product in the manufacture of cucaine, and they have found it to be benzoylecgonine, which is the substance produced by the action of water and heat upon cucaine; and from it and from ecgonine, cucaine and homologues of cucaine have been synthetically prepared.

Quinine has been the subject of several communications. In one of them, a long paper, Dr. Koppeschaar gave his reasons for believing that the polariscope affords the only trustworthy means of testing the purity of quinine. These, however, did not prove altogether convincing to Dr. Hesse, since he subsequently expressed the opinion that, under certain conditions described by Dr. Koppeschaar, the operator would not have really determined a small amount of cinchonidine salt present, but would have only fancied he determined it. On the other hand, an English experimenter, Mr. R. H. Davies, working with a sample of quinine sulphate 'of good commercial quality,' upon the ground of results obtained with the polariscope, implied that Dr. Hesse's standard 'pure' quinine sulphate still contained 3½ per cent. of cinchonidine. What is known as the herapathite method of testing the purity of quinine has also been adversely criticised by Mr. Shimoyama. Mr. Fletcher has pointed out that quinine, as precipitated by ammonia and air-dried until it ceases to lose weight, has the composition of a monohydrate and not a trihydrate, as has been sometimes stated. Further, it having been alleged by M. Masse, a French chemist, that the alkaloid in quinine sulphate undergoes decomposition when heated to a water-bath temperature in contact with lime, the reported experiments were repeated by Mr. F. W. Passmore, who, in several experiments, recovered within the limits of experimental error the quantity of alkaloid originally used, and he therefore reported that he was unable to confirm M. Masse's results. Subsequently, another English experimenter coincided with M. Masse as to the alleged decomposition of quinine occurring; but, as he seems to have trusted to others for the purity of the quinine sulphate he used, it is as likely that his results were vitiated by his excess of faith as by faulty manipulation.

Another subject that has furnished materials for several papers, has been the best means for the determination of the ethyl-nitrite in spirit of nitrous ether. This has probably been now decided in favour of the elegant method perfected by Mr. A. H. Allen, consisting essentially in the measurement in a nitrometer of the volume of nitric oxide evolved when a sample of spirit of nitrous ether is treated with an acidulated solution of potassium iodide. This test has now been made official, and coincidently with its introduction into the *Pharmacopœia* the presence of a definite proportion of ethyl-nitrite has been made an essential character of the spirit of nitrous ether. The instability of this constituent will necessitate constant vigilance, and the rapidity with which it may disappear when the preparation is diluted with an aqueous liquid, was illustrated in a paper read by Mr. Allen at Aberdeen. The nitrometer test seems to be available for the estimation of amyl-nitrite, concerning the preparation of which compound some valuable information was communicated to the same meeting by Mr. John Williams.

Two papers read at the first evening meeting of the Pharmaceutical Society in the year by Mr. R. H. Davies and Mr. E. M. Holmes described a number of fixed oils from China and Japan, some of them possessing characters and properties that will doubtless secure for them an important future. Some information has also been given by Mr. Holmes concerning turtle-oil from the Seychelles, which has been recommended as a substitute for cod-liver oil. Further pharmaceutical experience with cotton-seed oil has been contributed by Mr. W. Gilmour, who is of opinion that this oil, from its sweetness and keeping properties, is adapted as a base for ointments and pomades, but that it is not suited for forming liniments with alkaline solutions. Another ointment basis has been recommended in 'lanoline,' a cholesterine fat prepared from suint, which is said to be capable of taking up its own weight of water and to be absorbed through the skin with remarkable facility. A product of the dry distillation of colophony, known as 'rosolene,' has also been suggested as a non-rancidifying material for similar purposes. Other non-fatty bases for applications to the skin have also been suggested, such as the medicated kaolins, starch and gum pastes, and soaps containing unsaponified fat, favoured by Dr. Unna. As connected with this subject, may also be mentioned a valuable paper by Mr. Dechan, on the soaps of pharmacy, showing among other things the excess of free alkali they sometimes contain, and another one on the formation of basic salts in the saponification of fats and oils, by Mr. Maben.

A number of other papers having a specially pharmaceutical bearing have also been read in the course of the year. Mr. A. Gibson reported results of experiments made in respect to the preparation of extract of Calabar bean, from which he concluded that rectified spirit, as ordered in the *Pharmacopœia*, is not the best menstruum for the full extraction of the alkaloid, although it has the advantage of removing a minimum of extractive and so yields a product proportionally rich in alkaloid. The strength of spirit best suited for the full extraction of the alkaloid he found to be 66 per cent. Commercial samples of the same extract, examined by Mr. MacEwan, showed a variation in alkaloidal strength from 1·1 to 10·47 per cent.; the higher result being thought to have been probably due to the use of the seed of *Physostigma cylindrospermum*. A paper on dialysed iron, by Mr. J. O. Braithwaite, advocated the adoption of specific gravity 1·047 as a standard, a suggestion that has been accepted in the new *Pharmacopœia*. Mr. Wright called attention to the almost entire absence from commerce of any article corresponding to the ammonio-citrate of iron, B.P., 1867. Mr. Cripps has continued his useful reports upon the results obtained in the examination of tincture-deposits.

Article 5099.

POTT ON THE VALUE OF CUCA IN CHILDHOOD.

Professor Pott, of Halle, publishes a paper on this subject in the *Jahrbuch für Kinderheilkunde*, vol. xxiv., part 1. His experiments were conducted in conjunction with Dr. Diderichs. The tincture and the extract were used internally; but for external and subcutaneous use the hydrochlorate of cucaine was employed. In the first place, the tincture was given to fifty children, aged from under two years, and suffering from more or less severe forms of enteritis, colitis, gastro-enteritis, and cholera nostras. The children, without exception, bore it very well, and showed no narcotisation or other ill effect from it whatever, even after large doses and long-continued use. The therapeutic results of its use in gastric and intestinal affections were very striking. In cases of cholera nostras, even where collapse threatened to set in and danger became imminent, the patient unexpectedly recovered when tincture of cuca was energetically administered, usually within twelve or at most twenty-four hours. After 50 to 100 drops had been given, the vomiting ceased, the diarrhœa yielded, the appetite returned, and complete recovery ensued. The author acknowledges that part of the benefit observed might have been due to the careful dieting and to the alcohol contained in the tincture, but he believes that a considerable share of it must be attributed to the cuca itself.

In the treatment of respiratory disorders, cuca appeared useless. In that of convulsive affections, it had barely as much effect as the bromides. Spasm of the glottis, eclampsia, and chorea, were only temporarily relieved by it. A case of epilepsy was greatly improved for a time, but later the drug appeared to exert no influence whatever upon the fits. A similar result was experienced in a case of angina pectoris as regards the tincture, but considerable benefit followed the use of pills made from the extract. Indeed, it may be affirmed that the extract is the more certain preparation; its disadvantage is, that it usually produces constipation.

Cucaine was used in the form of 5 to 10 per cent. watery solutions of the hydrochlorate, and it was either administered hypodermically, or painted on some part of the buccal cavity; in rare cases it was painted on the skin, such as that of the extensor side of the forearm. When cucaine was injected under the skin, a circle, first of analgesia, later of complete anæsthesia, formed around the seat of puncture, and this impairment of sensation passed very gradually into the area of normal sensibility. It lasted from ten to twenty minutes. A 10 per cent. solution painted on the tongue produced so much anæsthesia, that the patient could not distinguish the prick of a pin from the pressure of the pin's head. The power of taste was equally lost. Pencillings of the throat were found very beneficial in pharyngeal catarrh. They also diminished very considerably the paroxysms of barking cough in cases of pharyngo-laryngitis; but the most astonishing results were observed in cases of whooping-cough, the paroxysms of which were almost immediately reduced from twenty to three or four in the twenty-four hours; to accomplish this, two or three pencillings a day were sufficient. In all, fifteen cases of pertussis were thus treated; and of these, two died of intercurrent pneumonia, but whether the drug stood in any causal relation to this could not be determined. Children as young as six months bear this pencilling extremely well. The great objection to cucaine is its price. In Germany, this is sixteenpence a grain. RALPH W. LEFTWICH, M.D.

ARTICLE 5100.

OLDEROGGE ON HYDROBROMATE OF CONIIN.

IN 1876, Mourrut published his simple method of preparing hydrobromate of coniin by treating the alkaloid with vapours of hydrobromic acid. The preparation soon attracted attention of various experimenters (such as Tiryakian, Hoffmann, Bochefontaine, Prevost, and Schulz) and gradually came to be regarded as a drug nearly identical, in its physiological action, with curare.

In view of this supposition, which implied a possible therapeutic application of the salt as a substitute for the arrow-poison, Dr. V. E. Olderogge undertook very numerous and multiform pharmacological experiments with the hydrobromate on frogs, carps, rats, rabbits, pigeons and dogs, in Professor P. P. Sushtchinsky's laboratory; and, also, therapeutic experiments on patients suffering from epilepsy, chorea, puerperal eclampsia, paralysis agitans, lateral sclerosis, mania, and subacute delirium tremens (*St. Petersburg Inaug. Dissert.*, 1884, p. 84). In the beginning the author tried to work with preparations supplied by Merck, Tromsdorff, &c., but soon came to the conclusion that all commercial preparations of coniin invariably contain an admixture of Wertheim's conhydrin (or ethylconiin of Planta and Kekulé), a substance endowed with a convulsive action. Hence, he was induced to prepare the hydrobromate himself, using as the base Merck's coniin purified by double distillation. According to the author, pure coniin presents an almost colourless liquid body with narcotic specific odour, boiling point between 163°·5 and 165° C., of specific gravity 0·886, and a pronounced alkaline reaction. Hydrobromate of coniin was prepared by mixing the pure base with aqueous hydrobromic acid of specific gravity 1·47, and presented large, well-developed, slightly yellow-tinted crystals, easily soluble in water and spirit of wine. The results at which the author arrived are these.

A. *Cold-blooded Animals.*—1. Hydrobromate of coniin, being injected under the skin, produces a fleeting, slight excitement, which gradually, but rapidly, passes into the state of prostration, with an ultimate arrest of the respiratory movements and with complete loss of motor power (the stimulation of the skin by faradisation or an acid produces only fibrillary twitchings of muscular groups). The duration of the period of intoxication, as well as the issue, is naturally dependent upon the dose employed. Doses up to 2 milligrammes produce, within ten or fifteen minutes, toxic symptoms, which last about two or four hours, the animal (frog) ultimately recovering. Larger doses prove fatal. 2. The heart is affected relatively slightly. In small and moderate doses, the drug brings about some retardation of the cardiac action, with a slight increase in the energy of individual contractions. Only very large doses (6 decigrammes) are capable of arresting the heart in diastole. The retardation is best explained by an inhibitory action on all the cardiac centres and nerve-tracts, as well as on the cardiac muscle itself. 3. Reflex action is rapidly lost, the loss being dependent mainly upon the inhibitory action of the drug on the spinal centres, and partly only upon a similar action on the peripheral sensory nerves. 4. Irritability of the motor nerves and striated muscles seems to remain intact.

B. *Warm-blooded Animals.*—1. In all warm-blooded animals, hydrobromate of coniin also produces general prostration, embarrassment of respiration gradually rising to a full arrest, and paresis spreading from the hind limbs to all the voluntary muscles of the body. When given internally, the salt acts less energetically than when injected under the skin. When used repeatedly for several successive days, a very marked tolerance in regard to the drug is established. 2. Death is caused by asphyxia in consequence of the arrest of respiration, and may be prevented by artificial respiration, even when very large doses of the salt have been used. 3. The hydrobromate at first produces an intense increase in the excitability of the respiratory centre, but afterwards paralyses the latter. 4. The frequency of the cardiac action and the arterial tension at first rise, but subsequently sink; the increase being dependent upon a primary rapidly fleeting stimulation of the cardiac motor ganglia, and of the vaso-motor centre in the medulla; and the decrease, upon a subsequent failure of both. 5. Small doses of the hydrobromate do not produce any marked changes in the excitability of the cortical motor area (in dogs). Large doses give rise to an initial slight increase in excitability, which is rapidly followed by its inhibition; the latter, however, being only of short duration, and coinciding with the period of maximal respiratory disturbance. The amount of the depression is not considerable, since epileptic convulsions are discharged fairly easily, by means of immediate faradisation of the psycho-motor area, as well as by the introduction into the blood of essence of absinthe. The duration of the depression is, also, but short.

C. *Therapeutic Experiments.*—In cortical epilepsy, small doses (1 to 3 centigrammes, six times daily) remained inactive. Doses of 4 to 8 centigrammes, six or eight times daily, produced some improvement in three of ten cases; in the remaining seven, either negative results were obtained, or even an increase in the frequency of fits was noted. In view of such an uncertainty of action, on one side, and in view of risks associated with the administration of larger doses of the salt, on the other, the author comes to the conclusion that there is no place for hydrobromate of coniin in the treatment of epilepsy. The same may be said as regards lateral sclerosis, paralysis agitans, &c.; no improvement was obtained in any of the cases.

D. *Morbid Anatomy of Chronic Poisoning by Coniin.*—The author studied the changes wrought by chronic poisoning by the drug in the spinal cord in the dog. There were found (1) accumulation of blood-corpuscles in the capillaries and veins; (2) slight extravasations and plasmatic exudation around some vessels; (3) changes in the cells of the anterior horns, consisting in opaque swelling of the protoplasm, loss of the cellular processes, and disintegration. V. IDELSON, M.D.

ARTICLE 5101.

POLÏAKOFF ON THE PHARMACOLOGICAL ACTION OF IODOFORM.

DR. MIKHAIL P. POLÏAKOFF, of Professor P. P. Sushtchinsky's laboratory in St. Petersburg, has carried out a long series of experiments to study the pharmacological and toxicological action of iodoform both on cold-blooded and warm-blooded animals, as well as the antifermentative and antiseptic properties of the drug. The latter was introduced into the animal either (*a*) under the skin, in the form of a powder or an emulsion-like mixture, with olive-oil, almond-oil, or glycerine; or (*b*) into the stomach, through a gastric tube, in the shape of oil or glycerine mixture; or (*c*) into the peritoneal cavity, in the shape of oil mixture. The inhalation of iodoform-vapours, as recommended by Franchini and Rummo, proved an utter failure, in spite of the use of an apparatus specially contrived for the purpose. The results obtained by the author (*St. Petersb. Inaugur. Dissert.*, 1884, p. 79) may be summarised thus.

A. *Cold-blooded Animals* (*Frogs*).—1. When introduced into the lymphatic sac, in the doses of two or three centigrammes, iodoform develops a toxic action, invariably ending in death within three or five hours. When smaller doses are used, the animal recovers. 2. Iodoform gives rise to a gradually increasing retardation of the cardiac action, with an ultimate diastolic arrest in fatal cases. The phenomenon depends mainly upon a paralysing action of the drug on the cardiac muscle and intracardiac ganglia. 3. The respiration usually becomes slower. 4. The excitability of the motor nerves and muscular irritability, as well as the reflex action, at first increase; then, within a very short interval, sink. The excitability of the sensory nerves falls from the beginning. The initial increase in reflex action is caused solely by an irritating influence of the drug on the reflex centres in the spinal cord; the subsequent decrease, by lowering the central excitability, and failure of sensibility.

B. *Warm-blooded Animals* (*Dogs, Rabbits, &c.*).—1. The fatal toxic dose of iodoform varies according to the mode of introduction. It is half a gramme per kilogramme of the animal's weight for intraperitoneal administration; one gramme per kilogramme for internal, and from one and a half to two grammes per kilogramme for hypodermic administration.

2. When given internally, iodoform does not produce any irritating influence on the gastro-intestinal tracts, no sickness or diarrhœa being observed; but it gives rise to loss of appetite and constipation.

3. The cardiac action at first shows a retardation, which is caused by a stimulating action of the drug on the inhibitory cardiac centre. Later on, when convulsions are developed, a considerable acceleration, depending upon paralysis of the centre, is observed; and then a secondary retardation, depending upon paralysis of the heart, follows.

4. Iodoform does not manifest any marked influence on arterial tension.

5. The excitability of the sensory nerves invariably sinks in all cases, and under all methods of administration.

6. The excitability of the motor nerves and muscles, as well as reflex action, always at first considerably increases, then falls. The increase of reflex action is produced by an increased irritability of the spinal cord. Clinically, general clonic and tonic convulsions (sometimes lasting about twelve hours) are followed by paralysis. Anatomically, these phenomena depend on the appearance of acute poliomyelitis.

7. The motor area of the cerebral cortex takes no part in producing general convulsions, since under iodoform its excitability either remains unaltered, or is even lowered.

8. The influence of the drug on the mental sphere manifests itself in slight narcosis and depression of the cerebral action, which, with the advent of the convulsive period, deepen into a complete loss of consciousness; in some cases, however, the convulsions are accompanied by extreme general excitement (in dogs).

9. Iodoform at first increases the amount of urine; but with the development of the convulsive period the secretion of urine considerably lessens, and even ceases altogether; the phenomena being dependent upon toxic glomerulo-nephritis, with subsequent fatty degeneration of the epithelial cells of the urinary tubules.

10. In all cases of fatal iodoform-poisoning, there is developed fatty degeneration of the liver, with decrease in the secretion of the bile.

11. The cardiac muscle, as well as other striated muscles, undergoes intense fatty degeneration.

12. When administered in toxic doses, as well as when used in moderate doses for a prolonged period, iodoform invariably gives rise to symptoms of iodism; that is, to catarrhal inflammation of the respiratory mucous membrane and conjunctiva, and to various cutaneous rashes.

C. *Fermentation and Putrefaction.*—1. Iodoform proves an antiseptic only as regards the living animal system, where it finds the conditions favouring a slow liberation of iodine. 2. Outside of the animal body, under an ordinary temperature, iodoform is unable to arrest putrefactive and fermentative processes; it is otherwise under higher temperatures, setting free iodine. V. IDELSON, M.D.

ARTICLE 5102.

HOFFMANN ON CARBONATE OF LITHIUM.

Der Fortschritt (Dec. 20, 1885, No. 24) reproduces from the *Rundschau* the following paper on carbonate of lithium, by Hoffmann.

Carbonate of lithium forms a white powder, which melts on heating and solidifies on cooling as a crystalline mass. It dissolves in 80 parts of cold water, and in 140 parts of boiling water, but is insoluble in alcohol. When it is treated with nitric acid, effervescence takes place, and the salt liquefies into a fluid, which colours flame a brilliant carmine-red.

An aqueous solution of carbonate of lithia, obtained by aid of nitric acid (1 in 50), should remain perfectly unaltered by nitrate of baryta, by nitrate of silver as well as, after supersaturation with ammonia, by sulphate of ammonium, and by oxalate of ammonium.

One-fifth of a gramme (3 grains) of carbonate of lithium, dissolved in one gramme (15½ grains = 0·8 cubic centimètre) of hydrochloric acid, and desiccated by evaporation, ought to form, on addition of two grammes (30 grains = 2·4 cubic centimètres) of alcohol, a clear fluid without any perceptible residue. Thirty-seven centigrammes (5¾ grains) of the briskly dried salt ought not to require less than 10 cubic centimètres of standard hydrochloric acid for saturation.

Until lately, the solubility of carbonate of lithium has been very differently computed. Discrepancies are partly caused by the impurities of the salt, of which especially a minute quantity of phosphate of lithium, which dissolves less readily than the carbonate, is the most frequent, partly by the different methods of examination. It is a most common error, for instance, first to prepare a hot saturated solution and to let this cool afterwards, as the salt will less readily and completely dissolve in boiling than in cold water. A like mistake would be to boil a cold saturated aqueous solution, by which proceeding the glass will become incrusted with the solid salt, which, on cooling, will not completely dissolve.

The proportions of solubility of carbonate of lithium have recently been investigated by J. Bewad, and stated as follows :—

One hundred parts of water will dissolve of carbonate of lithium

At	1° C. (33°·8 F.)	1,539 parts.
,,	10° C. (50° F.)	1,406 ,,
,,	20° C. (68° F.)	1,329 ,,
,,	50° C. (122° F.)	1,181 ,,
,,	75° C. (167° F.)	0,866 ,,
,,	100° C. (212° F.)	0,728 ,,

These calculations have been tested and verified by numerous experiments. Of 2·010 grammes (31⅙ grains) of the salt, charged with 0·49 per cent. of hygroscopic moisture, having been infused with 100 grammes (three ounces and a third) of water at 14° C. (57°·2 Fahr.), and exposed to a temperature of 10° to 11° C. (50° to 51°·8 Fahr.), for six hours, whilst the mixture was frequently agitated, 0·607 gramme (9·4 grains) remained undissolved. Then, after due allowance for the hygroscopic moisture, 1·403 grammes (22¾ grains) of the salt had been dissolved at a temperature of 10° C. (50° Fahr.). Or: One gramme (15½ grains) of chemically pure carbonate of lithium was for some time agitated with 80 grammes (two ounces and six drachms) of water at 15° C. (59° Fahr.) whereby the salt was completely dissolved with the exception of a few grey imponderable flakes. Of another specimen of the salt, containing, however, traces of the phosphate, one gramme (15½ grains) dissolved in 50 grammes (two ounces and six drachms) of water, leaving a residue of 0·05 gramme (0·77 grain) of the phosphate. These proportions remain the same, whether distilled water containing air, or boiled water, cooled in a hermetically closed phial, have been employed. Carbonate of lithium, like carbonate of lime, more readily dissolves in water charged with carbonic acid than in pure water. One hundred parts of water saturated with carbonic acid will dissolve, at a mean temperature, 5¼ parts of carbonate of lithium.

Carbonate of lithium is tested for carbonates of potassium or of sodium by dissolving the salt in diluted sulphuric acid, and adding a multiple quantity of alcohol. This method is based on the solubility of the sulphate of lithium in strong alcohol, in which the sulphates of potassium and of sodium are insoluble. Hereby, however, it has been overlooked that the neutral sulphate of lithium will not readily dissolve in strong alcohol of a specific weight of 0·832, and that consequently, by saturating 0·1 gramme (1½ grains) of chemically pure carbonate of lithium in 0·8 gramme (12½ grains) of diluted sulphuric acid, the neutral solution of the sulphate thus obtained will already become turbid on the addition of 1·5 cubic centimètre of alcohol. If, however, 1 gramme (18½ grains) of water be previously added to the solution of the sulphate, the fluid will, on addition of even as much as 4 grammes (1 drachm) of alcohol, still remain clear. The same may be more easily effected by employing a somewhat larger quantity of diluted sulphuric acid, adding to 0·1 gramme ($1\frac{16}{25}$ grain) of carbonate of lithium 1·6 gramme (24·8 grains) of dilute sulphuric acid, whereby a bisulphate will form. The solution will not become turbid by the alcohol, even without previous addition of water. It will now, however, no longer be possible to discover the presence of a still larger quantity of sodium, as the acid sulphate of sodium will not be separated. [The same test for potassium will succeed both in the acid and in the neutral solution of the sulphate.] For this reason, the method has been improved by the Pharmaceutical Committee for the second revision of the *Pharmacopœia Germanica* (II.) by limiting the sulphuric acid to the quantity indispensable for the formation of the neutral sulphate, whilst a possible separation of the sulphate of lithium by the alcohol is prevented by previously adding the above stated small quantity of water. By this improved method, however, as much as 10 per cent. of carbonate of sodium will become manifest in but an uncertain degree. The great solubility, moreover, of chlorate of lithium in the strongest alcohol—(and likewise in a mixture of alcohol and ether)—presenting a much exacter and delicate test for potassium and sodium, it has been taken advantage of for another method, which had been already introduced in the first edition of the *Pharmacopœia Germanica* (I). Infusing in a porcelain-cup 0·2 gramme (3·1 grains) of carbonate of lithium with one gramme (15½ grains) of hydrochloric acid, desiccating the same over a lamp by evaporation, and adding to it after cooling 2 grammes (half a drachm) of alcohol, a clear solution will be obtained, which will be rendered turbid by very minute quantities of potassium or sodium; so that even one per cent. of carbonate of potassium or of sodium will be discovered by a faint separation.

The small atomic weight (7) of lithium furnishes besides a prompt and conclusive test for the purity of the carbonate. The equivalent weight of carbonate of lithium ($Li_2CO_3 = 74$) being 37, exactly 10 cubic centimètres of the standard hydrochloric acid will saturate 0·37 grammes (5¾ grains) of the salt, provided it have previously been freed of its hygroscopic moisture by brisk desiccation. Care however, ought to be taken not to raise the temperature of the carbonate of lithium to red heat, lest the carbonic acid should escape. Carbonate of lithium, adulterated with other salts, will require for saturation less of the standard hydrochloric acid, especially in the case of carbonates of alkalines being present. Thus, *e.g.* for 5 per cent. of carbonate of sodium, 9·85 cubic centimètres of the standard hydrochloric acid, and for 5 per cent. of carbonate of potassium, 9·77 cubic centimètres of the same, will suffice for saturation; whilst for 5 per cent. of sulphate of lithium only 9·5 cubic centimètres of the acid will be required. FERD. ADALB. JUNKER, M.D.

ARTICLE 5103.

OTT ON INTRAVENOUS INJECTION OF SALINE SOLUTION.

DR. DMITRY O. OTT'S inaugural work (*Voenno-Meditzinsky Jürnal*, March and April 1884, and *St. Petersburg Inaugural Dissertation*, 1884, p. 136) embodies the results of his extensive and prolonged experiments carried out at the respective laboratories of Professor Kronecker, Cohnheim, F. Hofmann, Kries, and J. P. Tarkhanoff. It consists of three parts, the first of which treats the question of intravenous injection of common salt; the second, that of injection of blood-serum, and defibrinated and whole blood; and the third that of auto-transfusion.

1. *Injection of Solution of Common Salt.*—The first series of experiments had for its aim to determine the fate of the saline solution introduced into the circulation of the animal; that is, to elucidate for how long it remains in the system. The experiments were carried out on dogs, and consisted—1. in drawing out of the carotid about one-half or two-thirds of the whole amount of blood present in the animal; 2. in immediately injecting an equal volume of a 0·6 per cent. neutral solution of chemically pure chloride of sodium into the jugular vein; and 3. in subsequently examining portions of blood taken from a subcutaneous vein of the hind limbs. From these experimental conditions, it is evident that the author's original object is the determination of the duration of the hydræmic state induced in the animal, or, in other words, the time necessary for a complete re-establishment of the normal condition of the blood. All five animals which had been subjected to experiments of this kind, recovered in spite of so enormous a sudden loss of blood. At the same time, careful chemical examination proved that the hydræmic state disappeared, and that the quantity of organic constituents of the blood rose to its previous level, within a period varying between twenty-six and fifty-one days. The number of blood-corpuscles, in general, returned to the standard somewhat more rapidly than the amount of organic constituents of the blood, the restoration of the former being complete between sixteen and forty-seven days after the induction of artificial hydræmia. Moreover, their regeneration did not stop there; in course of time, in all the cases a further increase in the number of blood-corpuscles (comparatively with the figures obtained before the experiment), a true polycythæmia, was observed. Meanwhile, another series of experiments showed that, after substituting a 0·6 per cent. solution of common salt for the blood lost, the organic chemical constituents of the blood-serum were invariably restored far sooner than those of the morphological part of the blood. This result seems to point out that the blood-corpuscles regain their normal numerical strength more rapidly than their normal chemical composition.

2. *Transfusion of Serum and Defibrinated and Whole Blood.*—The experiments were conducted identically with those referred to above, but, instead of a saline solution, various albuminous fluids were injected. In one group of the experiments, the blood-serum taken from a horse or dog was used, the conclusion reached being this: the degree of hydræmia induced, as well as the numerical loss of blood-corpuscles, and the time required for the regeneration of all losses, are quite identical in both of the cases (in the case of saline solution, and in that of the serum), and do not depend upon the nature of the fluid used for replacing the blood extracted. If so, what does become of the protein of the serum injected? There is no albuminuria observed; while, on the other hand, the hydræmic state remains as pronounced as when a non-albuminous fluid is used. Hence, it is necessary to admit that the protein undergoes combustion within the system, and is then eliminated in the usual way. In another series of experiments, defibrinated blood from the same or another dog, or the whole arterial blood from another dog, was employed. The main results obtained may be given thus. 1. There exists no difference between the effects of transfusion of defibrinated blood and those of 'immediate transfusion;' except that in the latter case the amount of organic constituents in the animal's blood falls in a greater degree than in the former case. 2. Whichever blood be transfused, the defibrinated or the whole (in the latter case taken from the same dog or from another), there develops itself in the receiver a hydræmic state, the degree of which is greater, the larger was the amount of the blood drawn out and replaced by the transfusion. 3. The hydræmic state following the transfusion of blood is much less considerable (about one-half) than that following the injection of serum or saline solution; but at the same time, while, in the former case, it develops itself more slowly, it remains considerably longer (about twice), than in the latter. 4. A complete restoration of the normal numerical strength of blood-corpuscles after transfusion of blood (defibrinated or whole alike) proceeds, also, more slowly than after injection of salt solution or serum. 5. The blood-corpuscles introduced by transfusion into the circulation of the receiver may not be regarded as living elements, identical with those present in the animal subjected to the operation. The blood transfused undergoes a complete elimination from the vascular system of the receiver; both the organic constituents of the plasma and the morphological elements are destroyed, and probably leave the body through the kidneys. 6. The beneficial action of blood-transfusion in cases of acute anæmia may be explained only by the introduction of a certain amount of a fluid into the circulation. The theory of 'transplantation' and 'substitution for the hæmic morphological elements' by means of transfusion (Panum, Tabouret, Sutugin) is untenable.

3. *Auto-transfusion.*—Anxious to still further support the latter statement, Dr. Ott made another series of experiments, consisting in transfusion of blood from the left carotid into the left jugular vein in the same animal. The respective cannulæ

were made to communicate through a piece of India-rubber tubing about one mètre long. [Simultaneously, a group of controlling experiments was performed, in which all the details of the operation—incision, exposure of the vessels, &c.—were repeated, except transfusion; that is, except letting the blood run through a tube, and thus come into contact with a non-living wall.] Exactly the same chain of phenomena was observed as in the case of transfusion of blood taken from another animal (dog).

From all the experiments with blood, the author draws the following general conclusion. On transfusing blood—defibrinated or whole, taken from the same animal or from another—we cannot possibly expect that it may be inoculated to the anæmiated receiver. On the contrary, we must regard the blood transfused as a dead body, destined for elimination out of the system in course of time. 'The blood transfused dies under the influence of contact with the dead tube of the transfusion-apparatus. It is possible, however, that in future there will be invented a technical contrivance for the transfusion, under which the blood transfused will preserve its full vitality—such as the use of excited blood-vessels instead of India-rubber or glass tubes, &c.' It is not difficult to foresee the practical general corollary drawn by Dr. Ott from all his interesting experiments. 'The danger from hæmorrhage,' the author says, 'when the loss does not exceed two-thirds of the whole mass of the animal's blood, consists in establishing a disproportion between the capacity of the blood-vessels and their contents. This danger may be obviated by introducing a certain amount of fluid, and that with pretty equal success, whether the fluid contain albumen and blood-corpuscles or not. It is necessary only that it possess indifferent properties, and that it be harmless to the system. The regeneration of the anæmiated organism, and the return of the latter to its original normal condition, take place at the expense of the organism itself, since an organic fluid or morphological elements, introduced into the vessels by means of transfusion, undergo destruction and are eliminated out of the system. However, in consequence of the fact that the destruction and elimination of all other fluids proceed more slowly than when a saline solution is used, the regeneration of the organism under the injection of common salt is attained more rapidly and more completely than under the transfusion of albuminous fluids, especially under that of blood.' Accordingly, the author emphatically recommends the treatment of acute anæmia by intravenous injection of a 0·6 per cent. solution of common salt. It is only natural that he discards also injection of egg-albumen, milk, peptones, &c. V. Idelson, M.D.

Article 5104.

NEISSER ON INJECTIONS OF CALOMEL.

In an article published in the *Tageblatt der* 58 *Naturforscher-Versammlung in Strassburg* (Journal of the 58th Congress of Physicists at Strassburg), reproduced in the *Centralbl. für die Gesammte Therapie*, No. ix., Dr. Neisser, from the practical experience gained in his clinic during the course of last year, on the effects of injections of calomel administered according to the methods of Scarenzio, Kölliker, and Smirnoff, draws the following conclusions.

1. The method consists in injecting 1 centigramme (one-sixth of a grain) of an aqueous solution of chloride of sodium, in which several percentages of calomel are suspended, with or without mucilage of gum arabic. The best results have been obtained by four to six injections of 1 decigramme (1·54 grain) of calomel each. The formula is as follows. ℞ Calomelanos, sodii chloridi, āā 5 grammes (℈jv.); aquæ destillatæ, 50 grammes (℥jss.); mucil. gummi arab., 2·5 grammes (℈ij.). The mucilage keeps the calomel in suspension, but the author found that the gum is apt to give rise to some objectionable after-effects—*e.g.* pain, &c.

2. The best manner of making the injections will be once a week in one single sitting, or every fortnight in two sittings, altogether four to six injections. The most convenient locality will be the gluteal regions, especially the lateral portion behind the trochanter, and the lateral dorsal regions. The injections ought to enter deeply into the tissues, avoiding, however, as much as possible the muscles. Friction, frequently resorted to, is not to be recommended.

3. Injections of calomel, combined with friction with mercurial ointment, constitute the most efficacious and most energetic treatment of syphilis. The calomel introduced by the injection is gradually converted into soluble chloride of mercury, which is absorbed as albuminate of mercury, wherefrom results are uncommonly long persistent, but gradually and slowly progressing impregnation of the body with calomel.

Neisser therefore considers this proceeding as the only method which guarantees the success of the treatment by friction, a view which has fully been borne out by clinical experience. The calomel method, consequently, is particularly appropriate, and has proved most successful—*a*, in the first treatment of syphilis (the author considers of the greatest importance the mode of the first treatment of a syphilitic patient); *b*, in the treatment of grave relapses, as well in their first stages (iritis, papulous and squamous eruptions, &c.), as likewise during the later period; no other method of treatment brings about such rapid exfoliation of the firm and generally resistent scabs of papulous exanthemata as injections of calomel; *c*, in the energetic curative methods which, according to Fournier's advice, are annually to be repeated during three or four years.

For the treatment of slight relapses during the earliest stage, or for the intermedial management during Fournier's periodical treatment, the author prefers injections of the amide compounds of mercury, which are readily absorbable and rapidly pass through the system; or of chloride of mercury and sodium; or the internal use of tannate of mercury. Injections of calomel possess, besides their high therapeutic efficacy, the practical advantage of great convenience and safety in treating out-door and otherwise unreliable patients.

The disadvantages of this kind of treatment are these.

1. Injections of calomel, compared with other injections, are decidedly more painful, and occasionally produce extensive infiltrations around the puncture. Abscesses more frequently form after such injection than after injections of other mercurial liquids, but may be avoided by skilful manipulation. Women, and in general persons with thick adipose tissue, are more liable to these incidents than men or lean people. After a total of 717 injections, 31 abscesses

formed, mostly, as borne out by evidence, in consequence of unskilful manipulation. These 31 abscesses occurred in 25 patients, one patient having suffered from 3, four from 2 abscesses each, and 26 from one abscess each. Cases attended with pain were more frequent.

2. Stomatitis was likewise more frequent, setting in, however, as tardily as several weeks after the first injection. But it is still an open question, whether stomatitis in these cases was the effect of the accumulation of mercury in the system, caused by the number of the injections, or the consequence of neglected attention to the cleanliness of the mouth after the treatment.

Besides stomatitis, no other symptoms of mercurial intoxication, especially none of derangements of the alimentary system, came under observation. The combined internal administration of iodine salts had no influence on the efficacy of the injections, nor on the formation of abscesses.

The liberal use of kitchen salt, however, proved beneficial, although it is not decided whether this be due to its therapeutic action; at any rate its favourable influence on pain, on the frequency and intensity of infiltration and abscesses, and on the absorption of these, became manifest.

The author concludes with the inference that frictions with mercurial ointment rank foremost as the best and most effective method of treatment of syphilis. If this cannot be safely and systematically carried out for various reasons, in most cases caused by the external circumstances of the patient, injections of calomel will prove the best substitute. The advantages of the latter method decidedly outweigh its drawbacks.

The other well-known modes of cutaneous, subcutaneous, and internal treatment possess, as 'principal treatment,' not the same curative virtues as mercurial frictions and calomel injections, although they constitute valuable and frequently indispensable methods, meeting the manifold requirements of the individual case of syphilis in its various stages, and for its ultimate complete cure.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5105.

LUKASHEVITCH ON HYPODERMIC INJECTION OF HYDROCHLORATE OF CUCAINE.

IN a preliminary note in the *Vratch*, No. 46, 1885, p. 766, Dr. A. J. Lukashevitch describes the results of experiments which have been undertaken on himself and several other healthy persons, in order to study the local effects of the hypodermic injection of cucaine. Merck's preparation of the hydrochlorate was used, the dose mostly being a quarter, but sometimes one-eighth, or even one-sixteenth of a grain.

When slowly made, the injection is entirely painless; when rapidly, it is accompanied by slight fleeting pain. One or two minutes later, redness and numbness, as well as anæsthesia, appear at the point of injection. From this point, anæsthesia spreads mainly along the course of ramifications of the cutaneous nerve, within the region of which the injection was performed. When made in a close proximity to a nerve-ramulus, the injection brings about anæsthesia over the whole region of the ramulus, the greatest area of insensibility being obtained when the injection is made near the point at which the nerve emerges from under fascia into the subcutaneous cellular tissue.

When the drug is injected in a direction towards the peripheral end of a subcutaneous nerve—that is, in a downward direction on the limb—no change above the point of puncture appears, the anæsthesia spreading downwards along a straight line, or deviating sidewards, according to the course of the ramifications of the nerve concerned. When the injection is made centrewards (in an upward direction on the limb) there appears, in addition to the anæsthesia below the puncture, anæsthesia for one, two, or three centimètres above the latter. On injecting cucaine near the periphery of the cutaneous region of a nerve, the anæsthetic area is very limited (about two or three square centimètres), spreading equally in all directions from the point of puncture. It is especially marked when the injection is made along the median line of the breast or abdomen. Around the anæsthetic area there is always observed a slight diminution of sensibility, which on the limbs spreads over a larger area below than above the puncture.

On injecting the alkaloid into regions furnished with a well-developed fat-layer, no anæsthesia, or only a slight diminution of sensibility, is observed. Anæsthesia is preceded and accompanied by the feeling of numbness, which disappears after the restoration of sensibility.

The maximal anæsthetic effects are observed between five and eight minutes after the injection. The anæsthesia lasts from ten to fifteen minutes, and then gradually disappears, the disappearance proceeding from the periphery to the centre. The injection usually (especially on the limbs) produces slight infiltration, which lasts from twelve to twenty-four hours. In four or six hours after the injection there appears local pain, which lasts from two to three days, the longest duration being noted in the case of the lower limbs. Cucaine anæsthesia is limited to the loss of pathic and thermic sensibility, the tactile being only somewhat lowered. The loss is so complete that pricking, incision, and cauterisation with a red-heated pin-head, become absolutely painless. A deep acupuncture produces only sensation as if from pressure by a blunt object (such as a lead-pencil).

V. IDELSON, M.D.

ARTICLE 5106.

GROSS AND GUTERBOCK ON NEPHRECTOMY.

GROSS (*American Jour. of Med. Sciences*, July 1885; and Guterbock (*Centralbl. für die Med. Wiss.*, November 21, 1885) publishes 34 cases of total removal of the kidney that have not heretofore been reported in current prints, and thereby increases the number of detailed and recorded cases to 233. Of this number 104 (44·63 per cent.) died. Of the total number, 111 were operated by lumbar incision, 120 by laparotomy, and 2 cases are not defined as to the operative measures. Of the cases operated by lumbar incision, 41 (36·93 per cent) were lost; of those dealt with by laparotomy 61 (50·83 per cent.) terminated fatally.

If from the total number operated on 33 cases be subtracted, in which disease of the ureter, injury, or floating kidney, indicated the removal of organs otherwise healthy (of this number 19 lumbar removals with 4, and 20 laparotomies with 8 deaths), and 5 cases in which a kidney was removed incidentally during the progress of other abdominal operations, there remain 92 lumbar operations with 37 fatal issues, and 95 laparotomies with 48 deaths. It appears from the report, that the method of removal by laparotomy has shown better results in tuberculosis of the kidney only. However, in the whole list only twenty such pathological conditions demanded operation. Therefore, it may be asserted as a general conclusion that lumbar nephrectomy is less hazardous than abdominal.

Regarding the several direct causes of death, and their relative consequence upon one or the other mode of operation, the annexed table is given.

This table shows that peritonitis and septic peritonitis are unknown as sequels of lumbar nephrectomy. But pyæmia and septicæmia are more frequent than after abdominal nephrectomy. Hæmorrhage and embolism also appear less frequently after the lumbar than after the abdominal procedure. Precise knowledge of the condition of the other kidney appears more easily obtainable by abdominal section.

Gross summarises as follows.

1. Lumbar nephrectomy is the safer operation.

2. Nephrectomy is indicated primarily by—*a*, sarcoma in adults; *b*, benign growths at any period of life; *c*, the early stages of renal tuberculosis; *d*, rupture or fistula of the ureter.

3. Nephrectomy may be executed, but only after failure of all other remedial efforts on account of—*a*, rupture of the kidney; *b*, prolapse of the kidney from a wound in the lumbar region; *c*, laceration of the kidney or ureter; *d*, suppuration of the kidney; *e*, hydronephrosis and cystic degeneration; *f*, neoplasm; *g*, painful floating kidney.

4. Nephrectomy is positively contra-indicated in—*a*, sarcoma of children; *b*, carcinoma at any age; *c*, far advanced tuberculosis.

Guterbock adds the histories of cases operated upon by George Elder and E. Sonnenburg.

Causes of Death.	Abdominal Section.		Lumbar Section.	
	Number.	Per cent.	Number.	Per cent.
Shock	20	32·79	16	40·0
Peritonitis	13	21·31	1	2·5
Septic Peritonitis	8	13·11	—	—
Uræmia	4	6·55	2	5·0
Exhaustion	4	6·55	4	10·0
Septicæmia and Pyæmia	3	4·91	7	17·5
Anuria	2	3·27	6	15·0
Infarction: Embolism	2	3·27	—	—
Hæmorrhage	4	6·55	—	—
Secondary Hæmorrhage	1	1·63	1	1·2
Suppuration of the remaining Kidney	—	—	1	2·5
Uncontrollable Vomiting	—	—	1	2·5
Cramps and Spasms	—	—	1	2·5
Unknown	—	—	1	2·5

IN pursuance of a resolution passed at the Medical Congress on Brain Diseases, held during the past summer at Antwerp, by which it was suggested that local conferences should be held to draw up trustworthy international tables of statistics on insanity, a conference of Austro-Hungarian specialists will be held at Vienna on the 26th and 27th inst., with the object of revising and extending the nomenclature of mental disorders. Invitations to the conference have been issued by four leading medical men of Vienna.

ARTICLE 5107.

KELSEY ON THE TREATMENT OF HÆMORRHOIDS BY CARBOLIC ACID.

DR. KELSEY (*New York Med. Jour.*) gives the following as the rules which guide him in this treatment of hæmorrhoids.

1. Use only the purest carbolic acid, crystallised, the purest glycerine, and distilled water, in the preparation of solutions. Each when prepared should be perfectly colourless and clear, the acid being in perfect solution. The glycerine is added to the solution of carbolic acid in water in just sufficient quantity to make a clear fluid, and the amount is not important. As soon as a solution begins to assume a yellowish tint, it should be replaced by a fresh one.

2. Use only the finest and most perfect hypodermic needles, and a perfect working clean syringe with side handles. After each injection, when the syringe is put away, clean it thoroughly, to be ready for use the next time.

3. The treatment may be applied to every variety of internal hæmorrhoids, no matter what their size. It is not applicable to external hæmorrhoids, either of the cutaneous or of the vascular variety, both of which may be treated by better means.

4. Before making an application give an enema of hot water, and let the patient strain the tumours as much into view as possible. Then select the largest, and deposit five drops of the solution as near the centre of the tumour as possible, taking care not to go too deep, so as to perforate the wall of the rectum, and inject the surrounding cellular tissue. The needle should be entered at the most prominent part of the tumour. If the hæmorrhoid do not protude from the anus, a tenaculum may be used to draw it into view. After the injection has been made, the parts should be replaced, and the patient kept under observation for a few moments to see that there is no unusual pain. The injection will cause some immediate smarting, if it be made at or near the verge of the anus. If made above the external sphincter, the patient may not feel the puncture or injection for some minutes, when a sense of pressure and smarting will be appreciated. In some cases no pain will be felt for half an hour, but then there will be considerable soreness, subsiding after a few hours. If it increase instead of disappearing, and on the following day there be considerable suffering, which perhaps may not be sufficient to keep the patient in bed, but is still enough to make him decidedly uncomfortable, it is a pretty good indication that a slough is about to form. For the reason that it is impossible to tell absolutely what the effect of an injection is to be until at least after twenty-four hours have passed, it is better to make but one at a visit, and to wait till the full effect of one has passed away before making another. If on the second day there be no pain or soreness, another tumour may be attacked.

5. The strength of the solution must be regulated by the nature of the case, and varies from 5 per cent. to pure crystallised acid. In a large vascular prolapsing tumour, which is well defined and somewhat pedunculated, five drops of pure carbolic acid may be used with the expectation of producing a circumscribed slough, which will result in a radical cure. A 33 per cent. solution under the same circumstances will probably produce consolidation and shrinkage without a slough, but the injections

will have to be several times repeated. A small tumour which protrudes slightly, is not pedunculated, and can be seen and felt as a mere prominence on the mucous membrane, may be cured by a simple injection of a 5 per cent. solution, which will cause it to become hard and decidedly reduce its size; while an injection of a 50 per cent. solution might make considerable trouble, the remedy being too powerful for the disease. Guided by this principle, some experience will soon determine the choice of the solution. There is no arbitrary rule which can be applied to every case. As in any other surgical operation, some cases will be more satisfactory than others, and an occasional accident must be expected; but on the whole it seems to be the best method of treatment as yet devised.

Article 5108.

LANDOLT ON INSUFFICIENCY OF CONVERGENCE.

The author (*Bericht der Ophthal. Gesellschaft*, Heidelberg, 1885) adopts the metrical notation of Nagel, the principle of which is that the unit, called a metrical angle, is the rotation inwards which each eye must make in order to fix an object lying in the median line at a mètre distance; and all other degrees of convergence are indicated by multiples or decimal fractions of this. The maximum convergence is, of course, the amount used when the eyes are directed to the nearest point of binocular fixation; the minimum, on the contrary, is the convergence of the visual axes when the eyes are directed to the far point of binocular fixation. If the latter be at infinity, this is *nil*; but in most persons a slight amount of divergence can be produced, so that the point of meeting of the visual axes would be behind the head, and the far point be negative. The convergence from parallelism to the near point is positive, that from parallelism to the far point negative. The amplitude of convergence is the difference between the maximum and minimum.

Positive convergence can be measured by Landolt's ophthalmo-dynamometer, the negative by the strongest prisms with their bases inwards, through which binocular fixation of a distant object can be maintained. If the number of the prism be divided by seven, the quotient will give the amount of convergence in metrical angles, if there be an average distance between the eyes.

Evidently, therefore, eyes having an equal amplitude of convergence may yet be very differently circumstanced in reference to this function. The normal amplitude is about ten metrical angles, of which one is negative and the rest positive; but with the same amplitude the normal relations between the positive and negative amount may be altered, and when the amplitude is below normal the deficiency may be in either part, or both may be curtailed.

In order to ascertain whether asthenopia is due to insufficiency of convergence, we must first find how much convergence the patient needs for his work, and it is essential that he should possess a reserve fund in addition to this. Between the convergence actually required and the reserve fund of convergence there must exist a certain proportion; and, if the reserve sink below this, asthenopia will result in prolonged work. From the results of experiments, the author believes the reserve fund of positive convergence should be at least double the convergence actually required. Thus, in order to work at a distance of a third of a mètre (3 metrical angles), a total positive convergence of 3 + 6 = 9 metrical angles would be required; if the patient only possess 7, the deficiency of 2 metrical angles of convergence will cause asthenopia.

As regards the treatment of insufficiency, the means at our disposal are (1) the use of prisms, (2) tenotomy of the external recti, (3) advancement of the internal recti, (4) a combination of these. The choice will depend on the amount of insufficiency of the positive convergence, and on the amplitude of the function. A prism of 7° (3½° before each eye) corresponds to 1 metrical angle, and 10° (5° before each eye) represent about the strongest prisms which can be worn as spectacles; not more than 1·5 metrical angles of insufficiency therefore can be supplied by this means.

When there is the normal amplitude of convergence, but the whole range is, as it were, displaced backwards, so that the negative portion is in excess, and the positive deficient, tenotomy of one or both external recti is indicated. This also will often give good results when, with excess of the negative portion, there is also a moderate deficiency in the amplitude; but here the author recommends in preference advancement of the internal recti. In cases of high myopia, in which the muscles, by the elongation of the globes, have become stretched and lost their elasticity, the amplitude of convergence may be very greatly reduced; and in such cases the author considers that all operative interference should be avoided, as it tends to still further reduce the amplitude of convergence.

Resembling these latter cases (except that the physical causes are absent) are those of muscular asthenopia, which are of central origin. In these, the defect is usually too great for prisms, and operative measures are generally only of temporary benefit, although both these are serviceable in some cases.

Asthenopia may be due to an insufficiency in the relative range of convergence or accommodation, the actual range of each function being normal; thus, in young hypermetropes, the relative insufficiency of accommodation sometimes leads to an excess of convergence, while in myopes, in whom less accommodation is required than in emmetropes, with a given degree of convergence, too great an amount of accommodation is always used, owing to the difficulty in dissociating the two functions. Such cases are usually spoken of as examples of insufficiency of convergence; but, since the absolute convergence is normal, it seems to the author preferable to speak of them as cases of excess of the relative positive accommodation.

For the diagnosis of relative insufficiency of accommodation or convergence, Landolt uses a line composed of luminous points. It is only seen as such when the two functions are properly co-ordinated. When the convergence is at fault, the line is seen double; when the accommodation is to blame, the points become blurred and run together.

W. Adams Frost.

M. Debierre, of Lille, has forwarded a note to the Paris Biological Society, stating that manganese has the effect of rendering the process of nutrition slower and of encouraging the formation of blood-corpuscles.

ARTICLE 5109.

DE WECKER ON THE COMBINATION OF TENOTOMY WITH CAPSULAR ADVANCEMENT.

WHEN, more than thirty years ago, Von Graefe reintroduced into practice the operation of tenotomy for strabismus, which had been almost abandoned in consequence of the want of accurate control over the amount of correction, he did so by making use of the classical work of Bonner on the capsule of Tenon, and showing the importance of preserving the relations which exist between the capsule and the tendon.

But the correction that can be obtained by Von Graefe's method does not exceed 15° or 20°; so that, when the squint exceeds this, it is necessary to supplement the operation by tenotomy of the other eye, and not unfrequently also to perform a second tenotomy on the squinting eye. The necessity of submitting to several operations, and the objection to having the non-amblyopic eye operated on, not unfrequently leads to patients abandoning the treatment before a cure has been effected.

Liebreich increased the effect of the tenotomy by making a larger opening in the capsule, and dissecting the conjunctiva freely from the muscle; by this means a much greater effect was obtained, but the palpebral fissure became widened, the globe prominent, and the caruncle retracted; while the great weakening of the muscle, which was produced by putting its insertion so far back, rendered it impossible for it to act in harmony with the muscle of the opposite side, and not unfrequently led, sooner or later, to divergence.

De Wecker (*Bull. de la Soc. Franc. d'Ophthal.*, 1885) considers that, if the operation for squint is to be rendered popular, the proceeding must be limited to the squinting eye, and that advancement of the weakened muscle should be combined with the putting back of the contracted one in all cases in which the squint exceeds 25°.

The defects of the ordinary operations for tendinous advancement are dwelt upon, especially the difficulty and tediousness of the operation, the temporary weakening of the muscle produced by its detachment, and the risks of failure.

The aim of the operation is to produce a folding of Tenon's capsule over the insertion of the external rectus, and it is performed in the following manner.

A semilunar fold of conjunctiva is detached, 3 to 4 millimètres long, close to the outer margin of the cornea; on the conjunctiva retracting, the tendinous fibres of the external rectus are seen through the capsule; two small openings are then made in the latter, one over each border of the tendon, and the capsule is freely dissected from the muscle. Two sutures are next introduced, the one above, and the other below, the vertical meridian of the cornea; each lies near the cornea, and includes a bridge of conjunctiva and subconjunctival tissue. The needles are then passed into the upper and lower capsular openings respectively, carried behind the tendon, and made to emerge about its centre, traversing tendon, capsule, and conjunctiva. The tendon of the internal rectus is then divided in the ordinary manner, the conjunctiva being first separated to an extent proportionate to the effect required. The sutures are then tied. The capsule is thus drawn forward and folded on itself, while at the same time the traction tends to close the wound in the capsule made for tenotomy of the internal rectus, and thus to prevent that unnatural prominence of the globe which sometimes follows a free division.

De Wecker performs this operation in all cases of convergent squint which exceed 25°, and in all of divergence exceeding 10°, and speaks extremely well of the results. W. ADAMS FROST.

ARTICLE 5110.

BENNETT AND GODLEE ON CEREBRAL TUMOUR.*

THIS case, which is likely to be a classical one in the annals of medicine, is narrated by Dr. Hughes Bennett in the *Transactions of the Medico-Chirurgical Society*, sixty-eighth volume, and may be briefly summarised. The patient, a man 25 years of age, came into hospital with complete paralysis of the left fingers, thumb, and hand, impaired power in the elbow and shoulder, and slight loss of power in the left lower extremity. He suffered from frequent violent paroxysmal attacks of lancinating pain in the head, diffused over the vertex, and there was double optic neuritis. There had been twitching of the left side of the mouth and tongue, and now there was some immobility of that side of the face, and the tongue protruded to the left side. The origin had been slow and gradual, and it was doubtful whether an injury, four years before, on the left side of the head had been the commencement of his illness. While under observation, the pains in the head became more frequent and intense, so that he became at times delirious, and kept the whole ward disturbed with his cries. Added to this there was violent retching, and many times a day there would be twitching of the muscles of the left hand and left side of the face, but these parts were not simultaneously affected. The sequence of events, with all the circumstances of the case, led to the diagnosis that there was an encephalic growth, probably glioma, and probably of limited size, involving the cortex of the brain, and situated at the middle part of the fissure of Rolando.

With the patient's approval, an attempt was made to remove the tumour on Nov. 25, a large trephine being used. The aperture made measured 2 × 1¾ inches. There was no appearance of disease upon incising the dura mater, except that the cortex seemed swollen, less glossy, and less vascular than natural. An incision into this showed the morbid growth to be immediately under the surface, and the position was found after death to be exactly that of which the symptoms had led to the diagnosis from the first—namely, the middle portion of the ascending parietal convolution. For shelling out the tumour, the finger and a small spatula, tempered to be easily moulded into any form, were used, so as to avoid the use of the cautery, which was felt likely to obscure the condition of parts. The galvano-cautery was used to arrest hæmorrhage from the interior of the wound after the removal of the tumour, which was about the size of a pigeon's egg, and the authors express some doubt as to the wisdom of using the cautery. They also question the advisability of again using a drainage-tube in such a case; but this was here done, and the dura mater carefully stitched up with carbolised gut, but there is a doubt in their minds as to the propriety of introducing sutures into the dura mater.

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* A Case of Cerebral Tumour, by Hughes Bennett, M.D., F.R.C.P.; the Surgical Treatment by R. J. Godlee, M.S., F.R.C.S.

Some days after the operation, putrefaction occurred in the wound, and this was followed by inflammation and consequent fungous protrusion, which they call hernia cerebri—a name with which we may find fault. They urge greater precautions by antiseptic cleansing of the neighbouring skin in any future case, and, with regard to the protrusion, they remark that the discharge continued for a long time to be so copious and watery as to suggest the idea of its being cerebro-spinal fluid, and also that there was a difficulty in shaving off the mass, owing to the enormous size of the base and the danger of serious hæmorrhage. But it seems to us that the surgical after-treatment of such a case is likely to be purely and simply that of fungous protrusion of the brain, and on this we certainly want more experience. For this, it is likely that free drainage and the prevention of putrefaction will be the first aims of the surgeon, and the possibility of temporary pressure cannot be overlooked, though this is a very difficult question. Can we altogether discard the diminution of blood-pressure to be obtained by position, bleeding, and drugs? We think not; but this again requires further experience, and there are few surgeons more capable of doing justice to so difficult a task than Mr. Godlee.

The authors note the improvement which followed immediately on the operation. The patient became perfectly intelligent, the pain in the head and violent twitchings in the limbs disappeared and never returned, there was no increase of the paralysis of the face or leg, and all the organic functions remained normal. But the upper extremity was now paralysed throughout, evidently due to the unavoidable destruction of the remaining arm-centre in the removal of the tumour. After four days, the discharge from the wound became foul and protrusion occurred, and there was evidently secondary softening of part of the surrounding brain-substance; but that this was purely local was shown by the fact that, with the exception of paresis of the left leg and partial hemi-anæsthesia, the condition of the patient remained satisfactory. Improvement continued till the twenty-first day, when a rigor occurred and symptoms of meningitis arose, from which he died a month after the operation.

A careful account of the *post mortem* appearances is given. The brain was practically everywhere healthy, except at the area injured by the tumour and the operation, and the locality of the disease bore out the diagnosis of the physician. The forthcoming discussion at the Pathological Society will no doubt add valuable material to more than one aspect of the question raised by this case. Accuracy of diagnosis is of the first importance, and this will, we hope, be helped by the cases brought forward; but we should be glad to see some of the doubtful points in the surgery of such cases raised at one of the societies where treatment can be more fully discussed. W. W. Wagstaffe.

Baron Conrad, the Austrian Minister of Public Instruction, has sent to the Medical Faculties a circular concerning vivisection. Henceforth, it will only be permitted in very exceptional cases; when it is thoroughly necessary, and for very important researches. Vivisection can be practised in Government medical institutions only, and then by the professor or *agrégés*. The animals must be previously rendered insensible.

Article 5111.

SUTHERLAND ON THE PREMONITORY SYMPTOMS OF INSANITY.

Dr. Henry Sutherland, in the *Brit. Med. Jour.*, January 1886, p. 188, contributes a very valuable paper on the premonitory symptoms observed in cases that terminated, without care, in mental derangements.

Esquirol recognised three distinct stages of insanity. In the first, there is a change of habits, usually seen only by the relatives; in the second, a perversion of the affections, noted by the family physician; and the third stage constitutes true insanity, seen by the asylum superintendent. Insanity rarely commences with excitement. The duration of premonitory symptoms it is impossible to estimate with any degree of accuracy, for Dr. Sutherland has observed that, in such cases, an eccentric act has often been done many years previous to an outbreak. For instance, a wealthy schoolfellow stole money from another boy; fourteen years later, the same schoolfellow, who was then a clergyman, was admitted into Bethlem Hospital. Several similar cases are cited. The premonitory symptoms of insanity are most commonly represented by a contrary abnormality; for instance, unusual volubility may exist in one case, unusual silence in another. Some such change of character is most frequent, but in rare cases an exaggeration of the natural disposition is displayed. In most cases of mental disease when coming on, there is 'a something different, which the nearest friends do not fail to feel, although they cannot always describe it.' Dr. Sutherland mentions cases of patients who, conscious that an attack of mania was imminent, placed themselves voluntarily under care. The most common mental and bodily symptoms present are irritability and a readiness to take offence, sometimes accompanied by moroseness and silence, at others by noisy scolding and fault-finding with dependents. There may be indifference to usual occupations, or a restless desire for novel pursuits. The patient may be suspicious or jealous, and generally there are grounds for such delusions. One patient believes he is ruined, another that the world belongs to him. Loss of memory is often a very marked symptom; he may forget to eat, dress, and attend to natural functions, and a general air of neglected personal appearance will not fail to strike the careful observer. The physiognomy becomes characteristically altered (*vide* Laycock's photographs, *Med. Times and Gazette*, 1858). The posture and gait are abnormal; the skin is hard and dry, although at times moist, often emitting a very peculiar odour. The tongue is white and coated, and the breath offensive. The appetite is bad, and circulation feeble. Generally the face is pale, but at times there is great congestion of the head and face. Headache is a very common complaint. The sexual appetite is at times in abeyance, but at others in excess; and, oddly enough, this last condition is conspicuous in senile dementia, the maid-servant being frequently found to be pregnant by her master, before any mental aberration is discovered by the relations. Deafness is frequently simulated; abnormal sensations of heat and cold are complained of. The voice of the patient is almost always altered, speech being sometimes slow, at other times voluble; but articulation is rarely affected, except in general paralysis. The language often becomes obscene. It is not unusual for the patient to roam about the house or wander far from home, under some delusions; yet delusions, illusions, and hallucinations are comparatively rare during the premonitory stage. When developed, prophylactic treatment is of no avail, for insanity has already set in.

Treatment may be divided into prophylactic, medical, moral, and hygienic. If a patient be known to have an attack every year, send him off for a voyage a month before the attack is expected; but if the slightest premonitory symptoms exist, keep him at home. Bromides and chloral are valuable if there be cerebral heat or sexual excitement; opium and morphia in anæmia. Antimony is the sheet-anchor in violent cases. Iodide of potassium and mercury should be used, if there be a syphilitic taint. Combinations of drugs are invaluable, such as chloral with bromide of potassium and morphia, or cannabis Indica. Aperients are generally needed. The moral treatment consists in a mixture of firmness with kindness. The hygienic treatment is obvious. Let walking exercise be compulsory until great fatigue is induced, and soon all complaints of want of sleep and appetite will vanish. Dr. Sutherland thus concludes his valuable remarks: 'Let us not think that, by treating the premonitory symptoms of insanity, medical men will want work. As long as human nature, sexual intercourse, and alcohol exist, so long will there be excess; and in consequence plenty of work for our profession.'

RICHARD NEALE, M.D.

ARTICLE 5112.

BELL ON THE POSSIBILITY OF EDUCATING THE HEARING OF DEAF-MUTES.

IN a paper read before the American Otological Society, Professor A. Graham Bell (*Transactions of the American Otological Society*, 1885) brings forward several points which are of great interest regarding the possibility of educating the hearing of deaf-mutes. He remarks that, until within a year or two, we had no idea how large a proportion of the so-called deaf-mutes in institutions were only hard of hearing, the number being especially large among the congenitally deaf. The results of the education of the pupils in the Nebraska Institution for Deaf-Mutes, by means of artificial aids to hearing (such as a double speaking-tube), have been startling. To-day, he says, no less than fifteen per cent. of the pupils are graduated as speaking people hard of hearing, and not as deaf-mutes; and the principal of the institution thinks that as many as twenty-five per cent. have sufficient hearing power to be made of use. A child, says the author, who is unable to speak, is tested with a speaking-tube, and it is found perhaps that he imitates vowel-sounds. He is then taught to speak through the eye, through the ear, and through the motion of the organs of speech, and after a few months the child will hear words spoken behind him in a loud voice. A large proportion of the pupils thus learn to use the hearing power which they possess. An examination of 117 cases in the New York Institution showed that many pupils, who on admission had been certified as totally deaf by aurists, were able to imitate speech from hearing, and could repeat vowel-sounds very well.

The author next placed before the Otological Society the question of the causes of deaf-mutism, and the importance of a rational classification, in order that statistics regarding the deaf and dumb may be collected. He thought that, if they could get a classification of this description that could be collected in statistical form, they would soon have in America statistics relating to the cause of deafness in 7,000 deaf-mutes, and suggested the appointment of a committee of the Society for this purpose. Professor Bell, in conclusion, expressed his opinion that all the pupils in institutions should be examined by competent aurists simply for the purpose, if nothing more, of determining if anything could be done to benefit the hearing. 'It is certainly the case that in the institutions there is a large percentage, I believe over twenty-five per cent., who have sufficient hearing power to understand speech through an ordinary speaking-tube. If any means can be suggested by which the remnant of hearing power can be increased, and we can artificially bring these patients to hear, it will be a great benefit.'

Dr. St. John Roosa, in the discussion following the paper, stated that the fundamental defect in the tables at the institutions is, that they are taken by incompetent observers. He thought that much might be done in the classification of deaf-mutes by the committee suggested by Professor Bell, but that the first step must be to have connected with every institution a man capable of examining the ear, who should make a critical examination before the admission of the patient, and who should carefully follow up the history of the deaf-mutes.

As Professor Bell remarked, the whole subject deserves the careful attention of aural surgeons.

E. CRESSWELL BABER, M.B.

SURGERY.

RECENT PAPERS.

5113. KLATCHKO, L.—On a Case of Wandering Testicle. (*Vratch*, No. 41, 1885, p. 689.)

5114. IVANOFF, A. A.—On Retraction of the Penis. (*Vratch*, No. 26, 1885, p. 423.)

5115. SVISTUNOFF-SVISLOVSKY, V. G.—On Cucaine in Amputation of the Thigh. (*Proceedings of the Viatka Medical Society*, No. 1, 1885, p. 9.)

5116. STUDENSKY, N., PROFESSOR.—On Laparotomy in Suppurative Peritonitis. (*Khirurgitchesky Vestnik*, Nov. 1885, pp. 711–14.)

5117. WILLARD.—A Case of Distended Bladder. (*Brit. Med. Jour.*, Dec. 1885, p. 1104.)

5118. BIRT.—A Case of Severe Pistol-shot Wound. (*Lancet*, Dec. 1885, p. 1138.)

5119. RUPPRECHT.—Antiseptic Treatment of Wounds in Children. (*Centralbl. für Klin. Med.*, July 11.)

5120. STOKES.—On Astragaloid Osteotomy. (*Annals of Surgery*, Oct. 1885.)

5121. MILLS, G. A.—Riggs's Disease of the Teeth. (*New York Med. Journal.*)

ART. 5113. *Klatchko on Wandering Testicle.*—The perusal of Dr. J. B. Hamilton's paper in the *Brit. Med. Jour.*, March 7, 1885, p. 536, has induced Dr. L. Klatchko to report (*Vratch*, No. 41, 1885, p 689) a similar case of movable testicle in a youth, a druggist's assistant, who came to the author complaining of a painful and troublesome swelling which made its appearance in his left groin every evening after a hard day's work in the erect position, and which invariably disappeared during rest at night. The symptoms had first come about a year previously, during a busy winter season, but had subsided with the advent of relatively still summer months, to return with an autumn revival of the apothecary's business. On a morning examination, the left side of the scrotum was found empty, a forefinger easily passing up into the empty inguinal canal. The testicle, which was of normal size and consistence, but slightly tender, could be felt within the abdominal cavity near the region of the internal ring, about 2½ inches from the pubes, close to the horizontal branch of the pubic bone. An evening examination showed that the testicle had come down into, and been jammed in, the canal. It could be, however, fairly easily pushed back by the finger into the abdomen, beyond the internal ring. It never descended into the scrotum. Dr. Klatchko advised the patient to constantly wear a truss, in order to keep the testicle always within the abdominal cavity. According to the author, the daily descent of the testicle into the canal may be explained 'by an increase in the intra-abdominal pressure, originating from an involuntary contraction of the abdominal muscles, which contraction develops itself as an instinctive accessory support to the body, when the latter is overstrained by an incessant erect position, the same muscular phenomenon being observed also when we try to lift any very heavy object.'

5114. *Ivanoff on Retraction of the Penis.*—In the *Vratch*, No. 26, 1885, p. 423, Dr. A. A. Ivanoff, of Büzülük, Samara Government, publishes the following singular case. A strongly built, generally healthy, married peasant, aged 23, came to a local hospital, evidently labouring under some mental trouble, and stated that 'something had broken down below' with him. On stripping the patient a string came to light, one end of which encircled the retroglandular sulcus of the penis, while another end was fastened round the lower part of the left thigh, the member being thus kept down in a tightly stretched state. The patient did not allow the author to touch the arrangement, and himself untied the femoral end of the string. On gradual relaxation of the latter, the penis slowly retracted, and ultimately disappeared altogether under the pubic arch, leaving only a navel-like depression. The part could be got back only by traction on the string. According to the patient's narrative, everything had been in due order up to five days previously, when, having got up to micturate in a dark night, he was utterly frightened at being unable to feel any trace of his penis. Having managed somehow to pass urine, he, after prolonged manipulations, at last succeeded to get it back, and to retain in the way mentioned. Except slight perineal pain, no other symptoms, and no possible cause whatever for the retraction, could be detected. To allay the pain and the patient's distress, bromide of potassium, in ten-grain doses every three hours, was given. On the next day the penis remained unretracted for an hour or more. Six days later, retraction disappeared, and did not return. Dr. Ivanoff has not been able to find any other similar instance in literature.

5115. *Svistunoff-Svislovsky on Cucaine in Thigh-Amputation.*—Dr. V. G. Svistunoff-Svislovsky, senior surgeon and physician to the Viatka Zemsky Hospital, states (*Proceedings of the Viatka Medical Society*, No. 1, 1885, p. 9) that, in a case of amputation of the thigh in an old exhausted drinker, with intense fatty degeneration of the heart, he was able to make the whole procedure completely painless through combining local anæsthesia by a hypodermic injection of a grain of cucaine, with the inhalation of four grammes of chloroform.

5116. *Studensky on Laparotomy in Suppurative Peritonitis.*—In the *Khirurgitchesky Vestnik*, Nov. 1885, p. 711, Professor N. Studensky, of Kazan, reports the case of a girl, aged 12, who, when first seen on the nineteenth day of enteric fever, presented all the usual symptoms of purulent effusion into the peritoneal cavity. Aspiration (by means of Potain's apparatus) removed six fluid pounds of pus, but no improvement followed. Four days later, the fluid being reaccumulated, the author made an incision, about two inches long, into the abdominal wall below the navel; more than six fluid pounds of benign odourless pus escaped through the wound. The peritoneal cavity was washed out with a 4 per cent. solution of boroglyceride; a drainage-tube being inserted, the abdominal wound was closed by sutures, and covered with an antiseptic dressing. The latter was changed twice daily for five or six days after the operation, the abdominal cavity being washed with boroglyceride on each occasion. Though no pus was flowing from the wound, fever remained still high, and the patient's state grew worse. The girl complained of pain in the splenic region, where dulness was detected on percussion, but no pus could be obtained on exploratory puncture. A month later, a quantity of offensive pus suddenly appeared under the dressing. An examination led the author to conclude that the discharge proceeded from the neighbourhood of the spleen, where a sacculated abscess had probably existed at the time of laparotomy. The patient's temperature immediately sank to the normal level, but three days later a sharp attack of abdominal erysipelas with high fever occurred, which still further weakened the unlucky girl, and delayed her recovery. She got up only three and a-half months after the operation. At present, however (about nine months after laparotomy), she enjoys good health, having spent several months in the country. Pointing to similar successful cases of Hodges, Treves, Mikulicz, Lawson Tait, Anton Schmidt (*Vratch*, Nos. 51 and 52, 1881) and his own, Professor Studensky expresses his belief in a brilliant future for the treatment of purulent peritonitis by abdominal section with free drainage.

V. Idelson, M.D.

5117. *Willard on a Case of Distended Bladder.*—In the *Brit. Med. Jour.*, Dec. 1885, p. 1104, Dr. Willard records the case of a female, aged 40 years, who was admitted into the Philadelphia Hospital in a delirious typhoid condition. The abdominal cavity was filled with a large tumour, which extended to the ribs. It was globular, movable, tense, and distinctly fluctuating. For five or six weeks, the urine had dribbled away constantly. The author diagnosed a distended bladder, and introduced a catheter; by this means, during the next twenty-four hours, he drew off 464 ounces of urine. Next day, a partially decomposed four months' fœtus was passed. For the next three weeks the patient was unable to pass urine naturally; but the bladder gradually regained its tone, and in three months the patient was cured.

5118. *Birt on a Case of Severe Pistol-shot Wound.*—In the *Lancet*, Dec. 1885, p. 1138, Mr. Birt records the case of a man who was shot in a quarrel by a Remington revolver at a distance of two yards. The bullet entered just below the right eye, the malar bone was shattered, and the wound extended directly backwards along the floor of the orbit; the eyeball was destroyed. The patient was placed under ether, and the wound thoroughly examined. After extirpating the eyeball, it was found that the bullet had passed through the orbital plate of the superior maxillary bone, and through the greater wing of the sphenoid, and had penetrated into the substance of the brain. The bullet was felt by a long probe; then a pair of urethral forceps were introduced, and after some difficulty the bullet was extracted. The wound was syringed out, removing all *débris* and particles of broken-up brain-substance, and dressed with cold-water bandages, directions being given to frequently turn the patient's face downwards, to allow any pus to drain away. Fifteen hours after the operation consciousness returned, and twenty-one days afterwards the patient was quite well, having never had a symptom beyond severe frontal headache.

RICHARD NEALE, M.D.

5119. *Rupprecht on Antiseptic Treatment of Wounds in Children.*—The *Centralblatt für Klinische Medicin* of July 11 contains the report of an article by Dr. Rupprecht, of Dresden, on the antiseptic treatment of wounds in children. He considers that the strength of the antiseptic fluids ought not to be less than in adults, but that the choice of them ought to be more carefully made, on account of the smaller degree of resistance in childhood, the ease with which the skin macerates, and the difficulty of preserving strict cleanliness. Iodoform sprinkled on the wound is the most efficient antiseptic, acting even if the dressings become wet and soiled with urine and fæces. It has also the advantage of not requiring frequent dressing, which the dread and the restlessness of children render difficult. Anæsthetics should be employed during a change of dressing, whenever they are necessary.

ALICE KER, M.D.

5120. *Stokes on Astragaloid Osteotomy.*—Dr. William Stokes (*Annals of Surgery*, Oct. 1885), in a valuable paper, makes the following propositions. 1. The theory of ligamentous relaxation being the chief factor in the production of flat foot is erroneous, being, in the majority of cases, the result, and not the cause of the deformity. 2. Elongation of the calcaneo-scaphoid ligament should not be mistaken, as it often is, for relaxation of it. 3. The altered direction of the sustentaculum tali is a change that could not be directly or indirectly connected with either ligamentous relaxation or muscular paralysis. 4. The osseous deformation, whether resulting from original malformation, or rickets, or other pathological changes in genu valgum—a condition until quite recently believed to depend solely on ligamentous relaxation—furnishes an *à priori* argument in favour of the author's theory. 5. The treatment of pes planus in cases, at all events, where the deformity is irreducible, should be directed mainly to restoring the arch of the foot by operative interference with the misshapen astragalus. 6. This is feasible without destruction of the medio-tarsal joint. 7. The evidence in favour of muscular paralysis being an etiological movement in the production of flat foot is insufficient and unsatisfactory. 8. Deformity of the scaphoid, the result of disease, may also be looked upon as a cause of flat foot. 9. The appearances in the specimens noted by Mr. Symington and the author furnish strong proof of the truth of the connection between flat foot and original osseous malformation. 10. After astragaloid osteotomy, it is desirable to keep the foot during the healing of the wound in a state of supination, which can be conveniently effected by the application of Dupuytren's splint, as used in fractured fibula.

5121. *Mills on Riggs's Disease of the Teeth.*—A peculiar disease, affecting the gums and sockets of the teeth, was described by Dr. J. M. Riggs, of Hartford, Connecticut, eighteen years ago; and as there had been no records of the condition previous to that date it has been named in honour of the investigator—Dr. Riggs. The disease is a progressive inflammation existing under the gums, and wasting both the hard and soft tissues, so that the attachments with the roots of the teeth are gradually destroyed, and the teeth become loosened and fall out. Dr. Riggs suggested the removal of all foreign substances from the roots of the teeth, and the trimming of the necrosed edge of the alveolus to the life-line, leaving nature to restore to a normal condition. For this purpose he invented a set of instruments, new and unique in design. G. A. Mills, in a recent number of the *New York Medical Journal*, says that the simplest form of this disease may often be seen at the peripheral part of the festoon of the gum-tissue, indicated by a congested appearance. On lifting this gum with a delicate instrument, there will be seen a little seed-like granule of calcified substance. Another case may show a deep-red and raw-looking elongated appearance of the gum-tissue about the necks of the teeth, with or without any deposit; there may also be a looseness of the gum about the teeth, which causes quite a pocket. This latter condition is often a sequela of exanthematous disorders. There is also a peculiar odour associated with this condition, which, it is said, if once recognised will not be forgotten. Slight pressure on the gum will in the majority of cases cause a flow of pus, which is not always confined to one tooth, but may be general. The treatment advocated has been already indicated.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5122. BOTKIN, S. S.—On the Physiological Action of Mendeleeff's First Group of Alkaline Metals, in its Connection with their Chemical Properties. (*Ejenedeln. Klin. Gaz.*, June 9, 1885, pp. 411–13.)

5123. TRUBATCHEFF, A. S.—On the Influence of Milk Diet on the Excretion of Albumen in Chronic Nephritis. (*Vratch*, No. 46, 1885, pp. 763–64.)

5124. SOLONOFF, A. P.—Observations on the Antipyretic Action of Carbolic Enemata in the Treatment of Petechial Typhus. (*Proceedings of the Eastern Siberian* [*Irkutsk*] *Medical Society*, 1885, pp. 92–99.)

5125. NOVIKOFF.—A Note on the Treatment of Dysentery by Naphthaline. (*Voënno Sanitarnoï Delo*, No. 46, 1885, p. 514.)

5126. MINKEVITCH, IVAN J.—On Kitrana (Momordica Elaterium). (*Proceedings of the Caucasian Medical Society*, No. 7, 1885, pp. 208–10.)

5127. AKULOFF, A. J.—On Hydrastis Canadensis in Metrorrhagia. (*Proceedings of the Vilna Medical Society*, No. 9, 1885, pp. 6–7.)

5128. STEMBO, L. S.—On a Remarkable Sequel to Poisoning by Arsenic. (*Proceedings of the Vilna Medical Society*, No. 9, 1885, p. 5.)

5129. MACKENZIE, D. J.—Hamamelis Virginica in the Treatment of Prostatic Disease. (*Brit. Med. Jour.*, Nov. p. 830.).

5130. LORIMER.—Acupuncture in Chronic Rheumatism. (*Brit. Med. Jour.*, Nov. p. 956.)

5131. JAMES.—The Treatment of Lumbago and Rheumatic Pains by the Percusso-punctator. (*Brit. Med. Jour.*, Dec. 1885, p. 1156.)

5132. ROBINSON.—The Therapeutic Value of Blood-letting. (*Med. Times and Gazette*, Nov. 1885, p. 667.)

5133. Iodol: a Substitute for Iodoform. (*Lancet*, Nov. 1885, p. 1013.)

5134. SAUNDBY.—Urethan as a Hypnotic in Cardiac Disease. (*Lancet*, Dec., p. 1167.)

5135. FERGUS.—Quinine in Pneumonia. (*Lancet*, Dec., p. 1167.)

5136. MURRELL.—Pure Terebene in the Treatment of Winter Cough. (*Brit. Med. Jour.*, Dec. 1885, p. 1103.)

5137. BANNING. — Cucaine in Morphinism. (*Brit. Med. Jour.*, Dec. 1885, p. 1112.)

5138. CHURTON.—Pilocarpine and Scutellaria in the Treatment of Severe Hiccough. (*Brit. Med. Jour.*, Dec. 1885, p. 1158.)

5139. LARDIER. — Strychnine in Acute Alcoholism. (*Jour. de Méd. et de Chir. Pratiques*, June 1885.)

5140. SHELLY.—The Astringent Action of Cuca and of Castor-oil. (*Practitioner*, Dec. 1885.)

5141. MASIUS.—On Antipyrin in Articular Rheumatism. (*Bull. Acad. Méd. Bel.*, 1885, p. 25; and *l'Union Méd.*, Dec. 17, 1885.)

5142. SZALÉO, DIONYS.—On Bichloride of Mercury. (*Pester Mediz.-Chir. Presse*, 1884, No. 47.)

5143. BROUARDEL.—Elimination of Arsenic by the Lacteal Secretion. (Société de Méd. Legale, 1885.)

5144. SAUERHERING.—On the Treatment of Whooping-cough. (*Bulletin de Thérapeutique*, Oct. 30, 1885.)

5145. Kephyr.—(*Schmidt's Jahrbücher*, 1884, No. 9.)

5146. GOSSET-DESLONGCHAMPS. — The Action of Guarana and Guaranine. (*Paris Médical*, Jan. 13.)

5147. SCHAPIRO.—The Treatment of Neuralgia by Injections of Osmic Acid. (*St. Petersburger Med. Wochensch.*, and *Der Fortschritt*, Dec. 5, 1885.)

ART. 5122. *Botkin on the Physiological Action of Rubidium and Cæsium.*—In a preliminary note in the *Ejenedeln. Klin. Gaz.*, June 9, 1885, p. 411, Mr. S. S. Botkin, a medical student, states that he has examined the physiological action of rubidium and cæsium in dogs, in the laboratory of Professor S. P. Botkin, and has come to the conclusion that these metals which, according to Mendeleeff's chemical classification, belong to the group including potassium and lithium, present a considerable likeness with the latter elements (especially with potassium) also, as regards their physiological action. The author experimented with chlorides of rubidium and cæsium. The intravenous injection of three centigrammes of chloride of rubidium per kilogramme of the animal's weight gives rise to a marked elevation of arterial tension (sometimes about 100 millimètres of mercury), which is usually preceded by an initial fall, and lasts up to four minutes, the frequence of pulse being at first decreased, then slightly increased. The cardiac contractions become fuller. The injection of four centigrammes of the salt per kilogramme rapidly produces irregularity of the cardiac action, with diastolic arrest of the heart, and a fall of the blood-pressure down to 0. When exposed after the arrest, the heart presents weak fibrillary contractions for a long period. Rubidium has no cumulative action; on the contrary, there is observed a rapid tolerance of the drug, each subsequent injection producing a weaker action than the preceding. Preliminary division of the spinal cord does not change the phenomena, except that a somewhat larger dose is required for obtaining the same result. The same may be said about preliminary division of the sympathetic and pneumogastric nerves, and injection of atropine simultaneously with the division of the spinal cord. The intravenous injection of chloride of cæsium gives analogous results, but in a far weaker degree (the doses must be doubled). However, cæsium seems to have a more pronounced influence on the retardation of cardiac rhythm, than rubidium. According to the author, the members of the group under consideration may be placed in the following descending order in relation to their specific or toxic action on the heart; potassium, rubidium, cæsium, and lithium. [The physiological action of the last-named metal was lately studied in the same laboratory by Dr. Nikanoroff; *see* the LONDON MEDICAL RECORD, 1884, p. 522.]

5123. *Trubatcheff on the Influence of Milk-Diet on the Excretion of Albumen in Chronic Nephritis.*—In view of the fact that milk-diet had been emphatically recommended by many observers (Senator, Sparks and Bruce, &c.), Dr. A. S. Trubatcheff (*Vratch*, No. 46, 1885, p. 763) undertook a series of comparative observations on four patients with chronic nephritis (three with the parenchymatous, one with the interstitial form), each of whom received ordinary hospital diet during one period, and either mixed or pure milk-diet during a subsequent period of equal duration. The results were as follows. 1. An exclusive milk-diet invariably led to a marked increase of the daily and percentage amount of albumen in the urine. 2. The patient's weight fell considerably, without any marked change in his dropsical state. 3. A mixed milk-diet, also, led, in the majority of the cases, to an increase in the daily and percentage amount of the albumen excreted. 4. Neither pure nor mixed milk-diet produced any marked increase in the amount of urine. The author now studies the assimilation of protein by nephritic patients receiving milk-diet, which study will enable him to settle the question of 'good or harm' of the treatment.

5124. *Solonoff on Carbolic Enemata in Typhus Fever.*—The results which had been obtained from carbolic enemata in typhoid fever by Desplats, Van Oye, and Romanet, induced Dr. A. P. Solonoff, of the Irkutsk Military Hospital, to try the same plan in six cases of typhus fever (*Proceedings of the Eastern Siberian* [*Irkutsk*] *Medical Society*, 1885, p. 92). The treatment commenced from the third, fourth, sixth, seventh, and eighth days of the disease, and consisted in the administration of two enemata, at intervals of two hours daily; each enema being made of two ounces of a 1 per cent. solution of carbolic acid (that is, containing 10 grains of the acid). The results, as drawn from observation of the action of fifty enemata, are these. 1. Carbolic enemata, made of two ounces of a 1 per cent. solution, do not produce any tenesmus, the whole amount being absorbed by the rectal mucous membrane. 2. They invariably bring about a depression of the febrile temperature, amounting from 0°·2 up to 1° C. [The author never saw any considerable falls, such as 2° or 3° C., which had been noted by Desplats and Romanet.] 3. The decrease begins in about fifteen minutes after the injection, and lasts two hours, or even longer. 4. The depression caused by an enema may be kept at a given level by administering a second enema two hours later. 5. The antipyretic effects of simple cold water enemata ($1\frac{1}{2}$ pounds) are equal to, or even surpass, those of the carbolic injections; but the former are sometimes soon ejected by the rectum, and then, naturally, do not produce the action desired; moreover, in some cases they cause, after a temporary fall, a considerable elevation of the temperature. 6. In view of their technical simplicity and cheapness, carbolic enemata deserve a preference to the quinine treatment; the latter drug, in small doses, is entirely inactive in typhus fever (as well as in typhoid). 7. Carbolic enemata are, as to their antipyretic action, by far inferior to cold and prolonged lukewarm baths, and must be resorted to only when the baths are either impracticable or contra-indicated by the patient's state. 8. No toxic action was observed, though the daily dose of carbolic acid was as large as twenty or even thirty grains.

5125. *Novikoff on Naphthaline in Dysentery.*—In the *Voënno-Sanitarnoë Delo*, No. 46, 1885, p. 514, Dr. Novikoff writes that he has admitted to the lazaretto of the 9th Grenadier Regiment thirteen cases of more or less severe dysentery, and treated twelve of them by naphthaline, in five-grain doses, from three to six times daily. All the twelve recovered after several days' treatment. As a rule, within from twelve to thirty-six hours after the first dose, there appeared a striking relief of pain and tenesmus, and then a rapid fall of temperature followed. A thirteenth patient was treated by calomel and ipecacuanha, and died. The single inconvenience of the naphthaline treatment is the disgusting odour of the drug, which often causes vomiting. To prevent the latter, Dr. Novikoff advises that naphthaline should be administered in isinglass capsules (capsulæ operculatæ).

5126. *Minkevitch on Kitrana (Wild Cucumber).*—At a recent meeting of the Caucasian Medical Society, Dr. Ivan J. Minkevitch (*Proceedings of the Caucasian Medical Society*, No. 7, 1885, p. 208) showed the fruits from the wild or squirting cucumber (*Momordica seu Ecbolion Elaterium*; Georgian = *kitrana*; Russian = *Oslinyi ogüretz*, or 'ass cucumber'), the plant growing in abundance in the environs of Tiflis and on the banks of Küra. In Georgian popular medicine, it is extensively used as a valuable remedy for malarial fevers. According to the author, however, the paroxysms are, as a rule, arrested by the drug only temporarily, to return in two weeks or so. As Drs. D. Kh. Lisitzeff and A. P. Astvatzaturoff state, in Kakhetian popular medicine kitrana is used as a narcotic, especially serviceable in cases of hydrophobia. The fresh fruits diffuse an intense odour, which causes giddiness and stupefaction.

5127. *Akuloff on Hydrastis Canadensis in Metrorrhagia.*—Dr. A. J. Akuloff, of Vilna, details (*Proceedings of the Vilna Medical Society*, No. 9, 1885, p. 6) the case of a married woman, aged 42, who had been for nine years suffering from profuse flooding occurring every two weeks. Treatment by intra-uterine injections of perchloride of iron, and subcutaneous injections of ergotine, had brought no improvement. On examination, there were found dilatation of the cervical canal, enlargement, hardness, and impaired mobility of the womb, considerable distension of the cervical veins, and numerous easily bleeding erosions scattered over the whole mucous membrane of the cervix. Fluid extract of hydrastis Canadensis, in doses of twenty minims three times daily, was given for about three months. The first catamenia were yet profuse, lasting about ten days; but, subsequently, they returned only once a month and lasted each time three days, the amount of blood being moderate. A decrease in the bulk of the womb was also noted by the end of three months' treatment.

5128. *Stembo on Disappearance of Epilepsy after Poisoning by Arsenic.*—At a meeting of the Vilna Medical Society, Dr. L. S. Stembo related (*Proceedings of the Vilna Medical Society*, No. 9, 1885, p. 5) the case of an habitual drunkard, who had for many years suffered from weekly epileptic attacks, and lately attempted suicide by taking arsenious acid. Under an appropriate treatment, the patient recovered both from the effects of the poison, and from the epilepsy. At least, no convulsive attack occurred for six months after the poisoning. It is worth while to add, also, that he ceased to drink after the accident. V. Idelson, M.D.

5129. *Mackenzie on Hamamelis Virginica in the Treatment of Prostatic Disease.*—In the *Brit. Med. Jour.*, Nov. 1885, p. 830, Dr. D. J. Mackenzie records two cases in which he used hamamelis virginica with much benefit. One was a case of enlarged prostate, in which periodical hæmorrhage occurred simultaneously from the urinary passages and the rectum. A solution, containing one drachm of tincture of hamamelis and half a drachm of carbolic acid in twenty-five ounces of warm water, was used to wash out the bladder, the bleeding being at once arrested. The second case was one in which the right tonsil was affected with cancer. At one time a smart hæmorrhage occurred, and tincture of hamamelis was successfully given in medicinal doses; and, in addition, it gave so much comfort by removing the sticky secretion on the ulcerated surface, that it was adopted as a permanent mode of treatment.

5130. *Lorimer on Acupuncture in Chronic Rheumatism.*—In the *Brit. Med. Jour.*, Nov. 1885, p. 956, Dr. Lorimer contributes a paper on acupuncture, and its application in the treatment of certain forms of chronic rheumatism. It is chiefly useful in rheumatism of the fleshy parts—rheumatalgia—and the more so as the disease is less inflammatory. When the parts are hot, or the pain is increased by heat, the remedy is generally useless, and cannot supply the place of antiphlogistic remedies. In chronic rheumatism of the muscles and their fasciæ, and aponeuroses, there are usually three conditions present: (1) pain, (2) impaired mobility or muscular disability; and (3) impaired nutrition leading to muscular atrophy. Acupuncture may be employed with advantage for the relief of pain, and for the removal of muscular disability; and, with the removal of the latter condition, muscular atrophy is usually improved. Acupuncture, however, is less certain and efficacious for relief of pain than in the treatment of muscular disability. For the relief of disability, as well as for pain in rheumatism of the lumbar muscles, of the thigh, and in rheumatism of the muscles of the arm and shoulder, the effects are sometimes signally efficacious. After removal of the needle at the seat of puncture, there frequently appears a red areola from half an inch to two inches in diameter. The appearance of this areola bears a direct relation to the success of the operation. It is generally absent in cases where the action is inert and the result negative. In the removal of muscular disability, the action of acupuncture is immediate. The maximum amount of muscular power, however, obtained from its application is gradual, generally from ten to sixty minutes after the removal of the needle. In cases of muscular disability much benefit is obtained from employing a number of needles for a short time, whereas in the relief of pain one needle inserted for some minutes produces the best effect. The needles employed are about two inches in length, or longer, set in round handles; they should be introduced with a rotatory motion. Mr. Teale, of Leeds, believes that the introduction of the needle produces a temporary congestion in nerves suffering from defective blood-supply, and that this congestion acts as a starting point for improved nutrition and produces ease from pain. In conclusion, the author trusts that further use will be made of acupuncture, and that medical men will continue to record their experiences of its results. [Acupuncture has met with slight favour in English practice, but abroad its value is well known, as a glance at sect. 166 : 4 of the *Medical Digest* will fully prove.—*Rep.*]

5131. *James on the Treatment of Lumbago and Rheumatic Pains by the Percusso-punctator.*—In the *Brit. Med. Jour.*, Dec. 1885, p. 1156, Mr. Brindley James describes a method for treating lumbago and rheumatic pains. It consists in puncture, by means of needles, of the skin over the seat of lesion. The instrument consists of an ivory handle, through which runs a small metallic rod, which is capable of protruding or withdrawing the puncturing needles through a perforated cap. The author describes several cases in which he has used this instrument with much success. In one case a man, aged 51, was suffering from injuries to the left shoulder and elbow, causing acute pain over the deltoid and immobility of the shoulder. The percusso-punctator was used freely, and the joint was able to be freely moved without pain.

5132. *Robinson on the Therapeutic Value of Blood-letting.*—In the *Med. Times and Gazette*, Nov. 1885, p. 667, Dr. Robinson contributes an article on the 'Therapeutic Value of Blood-letting.' The general symptomatic indications necessitating venesection are thus broadly stated: an overloaded vascular system, as in general plethora, and hyperæmia of certain viscera, whether of primary or secondary origin, so intense as to seriously embarrass the action of the heart, and sometimes even to threaten its complete failure. Under such circumstances, a timely bleeding is always immediately followed by relief, a fatal termination is averted, and the disease is so modified as to make its subsequent progress towards recovery easier and more certain. The quantity of blood extracted must depend upon the impression produced by the blood-letting upon the symptoms, and upon the heart.

5133. *Iodol: a Substitute for Iodoform.*—In the *Lancet*, Nov. 1885, p. 1013, an article refers to a new substance which bids fair to take the place of iodoform. This is a dark powder obtained from 'Dippel's animal oil,' and is called iodol. It has but little smell. It is soluble in three parts of absolute alcohol, but only in 5,000 parts of water. It has been extensively tried in Rome in the treatment of chancres, buboes, &c., and very good results have been obtained. It has proved equally valuable in many cases of simple indolent ulcer. No cases in which it has been used have been complicated with erysipelas or diphtheritis.

5134. *Saundby on Urethan as a Hypnotic in Cardiac Disease.*—In the *Lancet*, December 1885, p. 1167, Dr. Robert Saundby writes that he has treated two cases of cardiac insomnia by two-grain doses of urethan, given at bedtime, in solution in water. One patient suffered from aortic and mitral incompetence, with congestion of the lungs, hæmoptysis, pleural effusion, and œdema of the legs. The other was a case of cardiac dilatation, with mitral incompetence. Urethan has for its formula $NH_2 CO_2 C_2 H_2$, and is described by Kobert. It was first used medically by Von Jaksch, of Vienna. He experimented with it on animals, and found that no toxic effect occurred even when the drug was administered in the proportion of ·5 gramme for each kilogramme of the animal's weight. [Vide *Brit. Med. Jour.*, September 1885, p. 611.]

5135. *Fergus on Quinine in Pneumonia.*—In the *Lancet*, Dec. 1885, p. 1167, Dr. W. Fergus records a case illustrating the value of quinine as an antipyretic in pneumonia. A boy, aged 15, complained of pain in the right side of the chest. The respiration was hurried, pulse 120, temperature 104° F. Later on, the temperature rose to 104°·8. The patient was given three grains of quinine every two hours, and next morning the temperature was 96°·4. He had taken twelve grains of quinine during the night. During the next two days the temperature never rose beyond 101°, and then it fell to 99° on the third morning, beyond which it did not rise again. The boy made a good recovery, and left the hospital seventeen days after admission. [That quinine has really a specific value in many forms of pneumonia, is proved by numerous observations since Corrigan in 1858 (vide *Medical Digest*, sect. 670 : 1) directed attention to the fact.]

5136. *Murrell and Bond on Pure Terebene in the Treatment of Winter Cough.*—Dr. Murrell, in the *Brit. Med. Jour.*, December 1885, p. 1103, publishes a paper in which he records some cases of winter cough and chronic bronchitis successfully treated by pure terebene—a substance prepared by the action of sulphuric acid on oil of turpentine. It is best to begin with doses of five or six drops on a lump of sugar every four hours, and gradually to increase the dose to twenty minims. One of the great advantages of this drug is that it is not a bulky medicine, and a small bottle can be carried in the pocket always ready for use. The only disadvantage is, that the drug gives a peculiar and characteristic odour to the urine. When it is used as a spray, from one to two ounces should be diffused every week. It may also be given in the form of emulsion, made by mixing it with tragacanth powder. Many patients suffer from flatulence and acidity, as well as from winter cough; and the internal administration of pure terebene proves an excellent remedy in checking the formation of flatus, and in dispersing any that may remain in the stomach. In the *Brit. Med. Jour.*, December 1885, p. 1184, Dr. Francis Bond writes that he was the person who originally brought terebene under the notice of the profession for disinfecting and other purposes, and for many years this substance has been made under the author's patent by Messrs. Cleaver and Sons. Dr. Bond has for a long while been aware of the valuable properties of terebene vapour as a pulmonary astringent and tonic, and has devised a little appliance for this, which he calls the 'Trissophial.' [The reporter has lately used it in many cases as recommended by Dr. Murrell with marked success.—*Rep.*]

5137. *Banning on Cucaine in Morphinism.*—In the *Brit. Med. Jour.*, Dec. 1885, p. 1112, Dr. R. J. Banning states that he prescribed cucaine for a patient who had been in the habit of taking five to ten grains of morphine daily for three years, with a view of counteracting the effects of morphinism. He commenced with a dose of one-eighth of a grain, and increased it to two-thirds of a grain. During the first three days the patient took eight grains and a half of the drug, without any toxic effect being produced. The only physiological effect was one of exaltation of the nervous power, followed in three hours by corresponding depression. Two or three small doses of morphine were administered during this period, after which the patient progressed without a bad symptom. (*Vide* LONDON MEDICAL RECORD, 1885, p. 107.)

5138. *Churton on Pilocarpine and Scutellaria in a Case of Severe Hiccough.*—In the *Brit. Med. Jour.*, Dec. 1885, p. 1158, Dr. T. Churton records the case of a lady, aged 25, who was suffering from severe and rapid hiccough. Under morphia, occasional inhalations of chloroform and nutrient enemata, the hiccough gradually ceased, but returned again in about a week, and became most obstinate. Dr. Churton then tried the effect of a quarter of a grain of pilocarpine hypodermically, and this gave relief in ten minutes. The hiccough recurred at intervals of a few days, but was always checked by pilocarpine. After some weeks the drug lost its effect, when sixty minims of the tincture of scutellaria were given every two hours. After the eighth dose the patient slept, and the spasms gradually diminished, so that by the fourth day they had stopped, and no recurrence took place. [Several observers have borne testimony to the value of pilocarpine in this affection since the *Medical Digest*, *vide* sect. 963 : 6, was issued.—*Rep.*]

5139. *Lardier on Strychnine in Alcoholism.*—In the *Jour. de Méd. et de Chir. Pratiques*, June 1885, Dr. Lardier states that he has for a long time employed strychnine in the treatment of delirium tremens, and regards it as a specific. It is necessary to give the drug in large doses. In one case, he gave one-thirteenth of a grain every two hours for several days without obtaining any benefit. He then increased the number of doses, until he gave in all 1⅔ grains in twenty-four hours. The patient soon fell into a refreshing sleep, and never showed a sign of strychnine poisoning. [In 1883, vide *Med. Times and Gaz.*, June, p. 727, M. Lecuyé described the value of hypodermic injections of strychnine in delirium tremens as being as much a specific as mercury is in syphilis.—*Rep.*]

5140. *Shelly on the Astringent Action of Cuca and of Castor-oil.*—In the *Practitioner*, Dec. 1885, Mr. C. E. Shelly draws attention to the astringent properties of cucaine and of castor-oil. Some cases are recorded of patients who suffered from bleeding from the mucous membrane of the lower bowel, and in whom the administration of a few drachms of the fluid extract of cuca produced complete relief. In France, castor-oil is used to arrest lactation. The author records cases in which he has proved that castor-oil has thus acted in women who have lately been confined. In cases where the breasts are over-distended and painful, it will be found that small doses of castor-oil give great relief; and when mastitis is threatened, a full dose of the oil affords prompt relief. In the night-sweats of phthisis, the author has found benefit from small doses of the oil. A tablespoonful taken every morning for two or three days is a valuable astringent tonic in congestion of the liver, especially when due to heart-trouble. The author concludes by stating that castor-oil is something more than a simple evacuant of the intestinal canal, and that its remote effects are to some extent analogous to those observed from the use of cuca.

RICHARD NEALE, M.D.

5141. *Masius on Antipyrin in Articular Rheumatism.*—The author of this communication publishes the results he has obtained from administering antipyrin in fevers (*Bull. Acad. de Méd. Bel.*, 1885, p. 25, and *l'Union Méd.*, Dec. 17, 1885). He has found its action to be quick, certain, powerful, and sustained, of great value in high temperature. In acute, subacute, and articular rheumatism, not accompanied with fever, he has observed that from three to five grammes, given in doses of 1 to 2 grammes, with a few hours' interval, have reduced the temperature to the normal standard, and lowered the pulse and produced a considerable improvement in the articular symptoms; sometimes modification of the local condition precedes the lowering of the temperature. In order to prevent relapse, antipyrin should be administered for eight days after the patient appears to be cured.

5142. *Szaléo on Bichloride of Mercury as a Disinfectant.*—Dr. Szaléo (*Pester Med.-Chir. Presse*) has observed poisoning after uterine injections, made with a solution of 1 per cent. of bichloride of mercury. All these cases ended well, but, before recovery, they presented diarrhœa, tenesmus, gingivitis, and stomatitis. The symptoms of poisoning are so slight when the injection is properly given, and so easily detected, that Dr. Szaléo decidedly recommends it. A solution of 1 per 4,000 has been used; practice decides when it is strong enough. It is not prudent to entrust the use of bichloride of mercury to midwives.

5143. *Brouardel on the Elimination of Arsenic by the Lacteal Secretion.*—In a paper read before the Société de Méd. Legale, M. Brouardel states that a wet nurse was nearly poisoned by having arsenic given to her; the child she suckled died. He has studied the question of the elimination of arsenic by the lacteal secretion. He extracted 5 milligrammes of arsenious acid from the child's viscera. M. Pouchet submitted the wet nurses of the Saint-Louis Hospital to arsenical treatment, by giving them Fowler's solution. One of them took every day during a week 8 milligrammes of arsenic. Chemical analysis of her milk proved that 100 grammes of it contained 1 milligramme of arsenic. Experiments on animals have given varying results, owing to their different degrees of susceptibility to the influence of arsenic. M. Brouardel considers that it is dangerous to administer arsenic to wet nurses, as the lacteal secretion is active in eliminating it.

5144. *Sauerhering on the Treatment of Whooping-cough.*—Dr. Sauerhering, of Stettin, cures whooping-cough in fifteen days by administering sulphate of quinine in the following manner. To sucking infants he gives from 4 to 7 centigrammes; to children of two years of age, from 7 to 10 centigrammes; to children of three and four, from 10 to 15; of five and six, from 15 to 20 centigrammes; of seven to eight, from 20 to 25 grammes (higher doses than these Dr. Sauerhering considers injurious); to adults, 50 centigrammes. These doses are not absolute. They constitute a scale of doses that have to be varied according to the patients, their constitution, temperament, development, &c. Ten doses of sulphate of quinine in powder are mixed with sugar; one dose is given at night, and three during the day, for the three following days; then three days' interval is allowed, and again ten more doses, divided as before, are given. After a second interval of three days, ten more doses are again administered, and the affection is generally cured. If, as rarely happens, it still persist, ten more doses must be given. If during the first period of the illness the powder be vomited, another must be given immediately.

5145. *Kephyr.*—Kephyr (ke'fyr, gypy, kehapu, kapyyr) is prepared with cow's milk and a special ferment known as Dispora Caucasica. This ferment was first described by E. Kern. It is a white compact mass, elastic, covered with mucilage, resembling in aspect a cauliflower. It is found on mountains, below the snow-line, on a certain kind of bush. The Russians call it gribki, signifying mushroom. The fungus (kephyr) consists of two parts—bacilli and yeast-cells; but the principal part is composed of bacilli; these give it its mucilaginous appearance and its elasticity. According to Kern, each cell contains two round spores, whence the name he has conferred on it, *Dispora caucasica.* Kephyr is an effervescing drink, always greatly esteemed from time immemorial by the natives. It is prepared by mixing 30 grammes of the ferment with two glasses of milk from which the cream has been removed. The next morning it is poured into another receptacle, more milk without cream is added to it, and it is then bottled. It is kept at a temperature of 10° or 12° R. (54°·5 to 59° Fahr.) for twenty-four hours, and often shaken. Fermentation takes place more rapidly when milk-sugar is added. Good kephyr is fluid, like oil, and pleasantly acid. The following table shows the comparative composition of kephyr and koumiss, and of milk, the basis of both—in one thousand parts:

	Milk.	Kephyr.	Koumiss.
Albumen	48	38	11·2
Butter	38	20	20·5
Lactose	41	20	22
Lactic acid	—	9	11·5
Alcohol	—	8	16·5
Water, salts	873	904·9	918·3

Kephyr is more agreeable than koumiss, and does not disturb the digestion; it is likewise cheaper. In order to succeed in preparing kephyr, the milk ought not to be too fat, nor the temperature too high nor too low during fermentation. Kephyr is an active analeptic; it is especially valuable in combination with iron for treating chlorosis, anæmia, and all affections of the respiratory organs. At the commencement of phthisis and dyspepsia, kephyr ought to be taken fasting—two glasses the first thing in the morning; later on, six, eight, or ten. Mandowski has found that it produces good effect in all kinds of dyspepsia, anæmia, catarrh of the stomach, chronic ulcer of the stomach, pulmonary catarrh, phthisis, and cancer. Pains in the stomach and vomiting were calmed in a few days by the use of kephyr. It stimulates the appetite, and is highly nutritious. In itself it forms sufficient sustenance for a few days.

5146. *Gosset-Deslongchamps on the Action of Guarana and Guaranine.*—The *Paris Médical* of Jan. 13, 1886, publishes a summary of a work by M. Gosset-Deslongchamps on guarana. Guarana has long been known as a remedy for migraine, and Dr. Rawson states, in the *Philadelphia Medical Times*, that, suffering from chronic rheumatism, he took ninety centigrammes of guarana powder, mixed with hot water, cream, and sugar; he was immediately relieved from pain, but it returned in twenty-four hours. By repeating the remedy, he was cured of his rheumatism. Dr. Rawson, encouraged by these personal experiments, prescribed guarana for his patients, and concludes that in acutely painful lumbago guarana is a valuable remedy. When the pain is heavy and dull, it relieves the sufferer, but its effect is less evident. This substance must not be given in too high doses, or cerebral disturbance, irregular pulse, anæsthesia, and convulsions, ischæmia, and cramp in the bladder may supervene. M. Gosset-Deslongchamps concludes from his researches that guarana is toxic to frogs in doses of nine to ten centigrammes, injected under the skin. Guaranine, introduced in the same way, kills them in doses of one centigramme. Guinea-pigs are killed by ten grammes of guarana; the hypodermic injection of five centigrammes of guaranine does not produce any effect. One hundred grammes of guarana injected into the veins of a dog kill it in twelve or fifteen hours; one gramme of guaranine injected into the saphenous vein kills it in fifteen or eighteen hours. W. Vignal.

5147. *Schapiro on the Treatment of Neuralgia by Injection of Osmic Acid.*—*Der Fortschritt* of Dec. 5, 1885, No. 23, reproduces from the *St. Petersburger Medic. Wochenschrift* a paper lately read by Dr. B. M. Schapiro before a meeting of the Medical Society of St. Petersburg, in which he reviews the hitherto published results of subcutaneous injections of osmic acid in neuralgia, reporting at the same time on the action of this acid, from which Dr. Fraenkel, of Berlin, supported by his last investigations and experiments, draws the following conclusions. Osmic acid has a destructive effect on the nervous and muscular tissues, considerably impairing their activity. In nerves, parenchymatous breaking up of a great number of nervous fibres, with consecutive callous epineuritis compressing the nervous fibres, has been observed; in the muscles, besides parenchymatous disintegration, interstitial inflammation takes place, followed by atrophy. Osmic acid colours black the living nervous fibres, condenses the tissue surrounding the puncture from the injection, and may damage the neighbouring motory nerves, which ought to be well borne in mind. Dr. Schapiro tested in 1884 the effects of osmic acid in eight cases of neuralgia of the trigeminus nerve. The disease affected various branches of the nerve, was in every instance of long standing, had been long neglected, and had proved most resistent to treatment. The final result was complete cure in five cases (*i.e.* 62·5 per cent), considerable relief in two cases, and signal failure in one case. Both cases, in which marked improvement took place, were extremely obstinate cases of neuralgia; whilst the case which had been treated without benefit represented one of the most violent forms of the affection, and the failure of the remedy appeared to be due to already long-established and permanent alterations in the central portion of the trigeminus nerve. The following solution was employed for the injections: osmic acid, ⅙th of a grain; distilled water, 1½ drachms; chemically pure glycerine, 1 drachm. This solution will keep from two to three weeks, while the simply aqueous solution will decompose within a few days, which is of importance, considering the high price of osmic acid. The number of injections varied in each individual case from one to twelve. Each dose was not less than five minims, and was increased in the course of the treatment. Injections at the seat of pain are of certain effect; but the pain frequently migrates after the injection to the neighbouring ramifications of the affected branch, in which no local sensation of pain had previously been felt. Dr. Schapiro never observed any injurious concomitant effect of osmic acid, except once a momentary fainting fit in an extremely nervous epileptic lady. Dr. Schapiro explains the mode of action of osmic acid, by assuming that in injections it first cauterises the terminal ramifications of the nerve, and that its narcotic effect is consecutive and secondary. He regards osmic acid, from his own experience, as a very efficient remedy in neuralgia of the trigeminus nerve; the more so, as every kind of previous treatment had failed in the five permanently successful, and in both greatly improved cases under his care.

FERD. ADALB. JUNKER, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

5148. SCHMIDT.—On a Case of Eclampsia Cut Short by Oxygen-Inhalation. (*Russkaia Meditz.*, No. 32, 1885, p. 595.)

5149. PRUJANSKAIA, MARIA O.—Anhysteria Congenita. (*Meditz. Obozr.*, 1885, Fasc. xx., p. 682.)

5150. OKINTCHITZ, ANTON.—On Congenital Absence of the Internal Sexual Organs, with Preservation of the Normal Size of the Pelvis in a Woman. (*Russkaia Meditzina*, No. 16, 1885, pp. 317-19.)

5151. GRIGORIEFF, N. J.—A Case of Anhysteria and Spurious Hermaphroditism. (*Meditz. Obozrenie*, No. 24, 1885, pp. 1069-70.)

5152. ZEMACKI, J. F., AND KOTELNIKOFF.—On the Intravenous Injection of Saline Solution for Acute Anæmia in a Case of Extra-uterine Pregnancy. (*Vratch*, No. 33, 1885, pp. 543-46, with two figures.)

5153. OTT, DMITRY O.—On Intravenous Injection of Saline Solution in Acute Anæmia caused by Placenta Prævia. (*Vratch*, No. 12, 1884, pp. 202-4.) On the Intiavenous Injection of Saline Solution in Postpartum Hæmorrhage. (*Vratch*, No. 2, 1885, p. 20.)

5154. KORSAKOFF, NIKOLAI S.—A Case of Precocious Menstruation. (*Meditz. Obozrenie*, Fasc. xx., 1885, pp. 692-98.)

5155. GRÖN.—A Case of Fibroma of the Uterus, complicated with the Remains of an Extra-uterine Pregnancy of about Eighteen Years' Standing. (*Norsk Magaz. for Lægevidensk.*; and *Nord. Med. Arkiv*, Band xvii., Häft 2.)

5156. ANGUS.—Retention of Broken Glass in the Vagina for Seven Months. (*Brit. Med. Jour.*, November 1885, p. 1016.)

5157. WALKER.—Strychnine to Prevent Flooding. (*Brit. Med. Jour.*, November, p. 913.)

5158. EDIS.—The Prevention of Mammary Abscess. *Brit. Med. Jour.*, November, p. 864.)

5159. MIALL.—The Prevention of Mammary Abscess. (*Brit. Med. Jour.*, November, p. 964.)

5160. GOODELL.—Inflammation of the Parotid Gland following Operations on the Female Genital Organs. (*Philad. Med. Times*, Oct. 1885.)

5161. APOSTOLI AND DOLÉRIS.—Circum-uterine Hæmatocele.

5162. SPETH.—On General Hypertrophy of the Mammary Gland in Women. (*Münch. Aerzt. Intel. Blätter*, 39, 40, 42, 1885.)

5163. VULLIET.—On Dilatation of the Uterine Cavity. (*Rev. de Thérap.*, Jan. 1886.)

ART. 5148. *Schmidt on Oxygen-Inhalation in Eclampsia.*—In the *Russkaia Meditz.*, No. 32, 1885, p. 595, Dr. Schmidt, of St. Petersburg, records a case of severe eclampsia occurring in a relative of his after a twin labour, where he successfully used oxygen-inhalations. When first seen, the patient was found in a deeply unconscious and nearly asphyctic state; to prevent the convulsive attack, she had been constantly kept under the influence of chloroform by two medical attendants. It was the asphyctic state which suggested to the author to try oxygen-inhalation without any delay, and in spite of some reluctance shown by his colleagues. After a few inhalations, the patient gradually recovered her consciousness, though she could not at first speak, on account of her tongue being swollen in consequence of bites during the paroxysms. Shortly afterwards, she took some tea, and was understood to complain of pain in the tongue and of general weakness. The patient made a slow, but complete recovery. About one cubic foot of the gas was used. The case came under the author's observation several years before the publication of Lashkevitch's paper on oxygen-therapeutics (*see* the LONDON MEDICAL RECORD, 1886, Jan., p. 20).

5149. *Prujanskaia on Congenital Absence of the Uterus.*—In the *Meditz. Obozr.*, Fasc. xx., 1885, p. 682, Dr. Maria O. Prujanskaia, of Moscow, details the case of a healthy, powerfully built and normally developed peasant woman, aged 21, married 2½ years, who had sought the author's advice on account of abdominal, femoral, and lumbar pain returning every three weeks, and lasting several days on each occasion. The patient had never been pregnant, and had never menstruated. Examination showed that the breasts and external genital parts were normal; the vagina was short and ended with a blind sac. A very careful search (both by the author and by Professor Snegireff) failed to detect any trace of the womb or ovaries. The occurrence of molimina menstrualia, however, seemed to point to the probable existence of the ovaries in a rudimentary state. Narcotics and rest during the molimina constituted the symptomatic treatment of the case.

5150. *Okintchitz on two Cases of Congenital Absence of the Uterus and Ovaries.*—In the *Russkaia Meditzina*, No. 16, 1885, p. 317, Dr. Anton Okintchitz, of Mohilev, details two instances of the congenital defects in question. One of the patients, an official's widow, aged 55, was admitted on account of left hemiplegia. She had married at 17, lost her husband at 32, had never been pregnant, and had never menstruated or had any molimina. On the examination, the breasts and pelvis were found normally developed; the clitoris was of normal size; the labia majora, and especially the minora, were considerably under the normal size; the vagina presented a blind sac, about one centimètre long. There was no trace of the womb or ovaries. There was never felt anything wrong on either part during marital intercourse. Another patient, a well-developed pregnant woman, aged 22, married four years, sought the author's advice on account of absence of menstruation. The general habitus, breasts, clitoris, the pubic hair, and the pelvic dimensions, were normal. The labia majora had the shape of small folds; the minora, on the contrary, were considerably enlarged, pigmented, and generally like those met in prostitutes. The vagina had the form of a *cul-de-sac*, about two inches long. Not a trace of the womb or ovaries was detected.

5151. *Grigorieff on a Case of Congenital Absence of the Womb.*—In the *Meditz. Obozrenie*, No. 24, 1885, p. 1069, Dr. N. J. Grigorieff, of Myshkin, Jaroslavl Government, describes the case of a peasant-woman, aged 40, married twenty-two years, who sought his advice on account of dysuria and gastralgia. She was tall, slender, with slight dark moustaches, coarse voice, and masculine manners. On examination, no breasts were found; the nipples, however, being large. The genital labia were small; on separating them, the urethral and vaginal openings came to view, the former freely admitting a forefinger. The vaginal opening was narrow, a middle finger passing but with difficulty; the vaginal canal was about two inches long, and ended in a smooth *cul-de-sac.* No womb or ovaries were detected by combined exploration. The clitoris was 2 centimètres long, and firm, its head being very like a glans penis. The patient had never menstruated; but, when young, suffered from headache and lumbar pain, re-occurring every month. Marital intercourse was at first very painful.

5152. *Zemacki and Kotelnikoff on Intravenous Injection of Saline Solution in Extra-uterine Pregnancy.*—In the *Vratch*, No. 33, 1885, p. 543, Drs. J. F. Zemacki and Kotelnikoff, of the Obukhovsky Hospital for Women, in St. Petersburg, detail the case of a soldier's wife, aged 31, who had been brought pulseless, insensible, with all the signs of acute anæmia. The patient had been reduced to this state by profuse uterine hæmorrhage of three days' duration. The uterus was found slightly enlarged, the os being closed, but discharging some sanguinolent fluid. The subcutaneous injection of camphor and the internal administration of valerian, Hoffmann's solution, and wine, brought but slight improvement. In view of the danger immediately threatening the patient's life, the authors resorted to intravenous injection of a litre of a solution of common salt (six grammes), liquor potassæ causticæ (one minim), and pure carbonate of potash (three grammes), in water (1,000 grammes), heated up to 40° C., and poured through a funnel from the height of a mètre. The transfusion lasted about fifteen minutes. A very marked improvement immediately ensued, the cardiac action becoming stronger, the pulse fuller and less frequent, the consciousness returning, &c. The patient being now able to give account of herself, the authors learned that she had been previously healthy up to three days before, when painless flooding suddenly appeared; the last menstruation had occurred three months ago; nevertheless, the patient did not regard herself as pregnant. Having taken all together (including the negative results of a repeated careful examination), the authors arrived at the conclusion that they had probably to deal with a case of intra-uterine growth. However, during the subsequent days, there were developed all the signs of acute peritonitis with intra-peritoneal accumulation of fluid, and on the fifth day after her admission the patient died in collapse. The *post mortem* examination revealed rupture of the left Fallopian tube, which was greatly distended, and contained a fœtal sac with a large blood-coagulum and rudimentary placenta, but no embryo. The peritoneal cavity was filled with an enormous amount of sanguinolent fluid, the bowels being matted together with loose fibrino-purulent membrane. The uterine end of the ruptured oviduct was impassable for a probe; hence the authors concluded that the flooding proceeded from the cavity of the womb. They seemed to think that the rupture of the tube took place after the patient's life had been saved by the injection of saline solution.

5153. *Ott on Intravenous Injection of Saline Solution in Puerperal Hæmorrhage.*—In the *Vratch*, No. 12, 1884, p. 202, Dr. Dmitry O. Ott details the case of a multipara who had been brought to the St. Petersburg Lying-in Hospital, in a state of extreme acute anæmia and collapse from formidable hæmorrhage, caused by commencing separation of central placenta prævia. Podic version with extraction was without delay performed, which operation, however, was immediately followed by loss of consciousness and opisthotonos. An injection of two litres of a 0·6 per cent. solution of common salt into the left median vein was now tried, but remained entirely inactive. The patient died soon after the transfusion, which had lasted about fifteen minutes. The necropsy showed that death followed in consequence of acute cerebral anæmia, the abdominal organs being choked with blood. The author feels sure that the issue of the case might have been favourable, if the injection had been resorted to before emptying the womb. In the *Vratch*, No. 2, 1885, p. 20, Dr. Ott records another case of acute anæmia treated after the same plan. The patient was a multipara, with extensive varicose dilatation of the femoral and genital veins, in whom, in about ten minutes after perfectly normal labour, profuse hæmorrhage occurred, the source of which lay, probably, in a varicose uterine vein. Kneading the womb, ergot internally, vaginal tamponade with ice, hot-water injections, &c., were used with varying success, the bleeding now and then ceasing and re-appearing. It went so for about eighteen hours, when, in view of dangerous collapse from anæmia and obstinate vomiting, the author decided to try the saline transfusion. Accordingly, about two and a half litres of a 0·6 per cent. salt solution, heated up to 38° C. were injected into the left median vein (which was found quite easily). The vessel (an Esmarch's can) holding the solution was kept about a mètre above the patient, the injection lasting nineteen minutes. About half an hour after the operation, an intense rigor appeared. The general state, however, began to steadily improve. On the twenty-seventh day, the patient left the hospital in a perfectly satisfactory state, notwithstanding that she had passed through an attack of puerperal septic endometritis.

5154. *Korsakoff on a Case of Early Puberty.*—In the *Meditz. Obozrenie*, Fasc. xx., 1885, p. 692, Dr. Nikolai S. Korsakoff, of Moscow, writes that a girl, 23 months of age, had been brought to him on account of frequent convulsive fits and genital hæmorrhage. On examination, the girl was found of good size, well nourished, and generally normally developed; but her breasts were as large as those of a girl about 13 years of age, and her pubes and labia majora were covered with dark down and hair (more than 2 centimètres in length). Her mother was a highly hysterical member of a hysterical family, the child being the first born. At six weeks of age, the girl began to suffer from eclamptic fits, which returned with ever-increasing frequency, until, at the sixth month, they commenced to occur from fifty to seventy times daily. About her twentieth month, the fits underwent a considerable change. The patient ceased to lose consciousness during the attacks, while hysterical spasmodic laughter was added to general clonic convulsions. From her fourteenth month, turbid, yellowish or colourless, viscid leucorrhœal discharges began to appear periodically, at intervals varying from one to four weeks, and each time lasted from two to five days. At her twenty-third month, slight vaginal hæmorrhage of a day's duration appeared. It was recog- ised by the author (who saw the girl a few days ater) as the first menstruation. His diagnosis ras seemingly confirmed, as the hæmorrhage re- ccurred six weeks later, lasting this time longer, nd being more profuse. About three months after he second 'catamenia,' epistaxis appeared. It re- rned twice at intervals of a month (on Jan. 15, eb. 15, and March 15), and was regarded by Dr. orsakoff in the light of a 'vicarious menstruation.' bout four months later (on July 28), the genital emorrhage re-occurred, and lasted now five days, he blood having a peculiar catamenial odour.' A urth 'menstruation' of a similar duration came at e end of ten weeks (shortly before the publication the paper). Leucorrhœal discharges continue to turn every three or five weeks, lasting from two to e days. The girl, who is now 3 years of age, is 1½ centimètres (nearly 40 inches) high, and weighs ·380 kilogrammes (36 lbs.). No hæmophilia is esent in the family. Her mother began to men- uate at 13.

V. IDELSON, M.D.

5155. *Grön on Fibroma of the Uterus with Re- ins of Extra-uterine Pregnancy.*—In this case, scribed by Dr. Kristian Grön, there was a solitary roma about as large as a child's head in the terior wall of the uterus. To the left side of the rus there was adherent a sac of the size of an ; in its wall were found numerous flat calcareous osits, and its contents consisted of a yellowish- gritty mass, in which were calcareous crystals, rt hair, and a fœtus of apparently the third th. On the right side of the fœtus, an eye, the t of the mouth, part of the chest, with the ribs, a thigh-bone and clavicle, could be clearly dis- uished. A short stump of the umbilical cord was erent to the abdominal wall of the fœtus. The imen was taken from the body of a married an, aged 49, who had for a long time had ptoms of fibromatous tumour of the uterus. In ember 1866 she had a sudden attack of peri- is, supposed by Dr. Grön to be connected with orrhage into the fœtal sac; the signs of preg- y were somewhat obscure. For a long time wards, a swelling, gradually increasing in size, be felt in the left side of the abdomen; and in a tumour of the size of a small egg was first ted in the right side of the pelvis.

A. HENRY, M.D.

56. *Angus on Retention of Broken Glass in the na for Seven Months.*—In the *Brit. Med. Jour.*, mber 1885, p. 1016, Mr. J. A. Angus records ase of a lady, aged 47, who came to him on nt of a return of symptoms she had before ienced owing to a displacement of the womb. aginal examination, the forefinger came upon a round body lying to the right and posterior f the cervix uteri. After some difficulty the r succeeded in dislodging it, and found it to be the perforated end of a broken glass female syringe. patient was amazed, and said she remem- , seven months previously, breaking a syringe when using a vaginal injection, but, hearing her husband coming upstairs, she put the fragments into the chamber-vessel, and thought no more of it. Connection had taken place several times, the husband complaining of feeling some obstruction, but the patient had herself never experienced any inconvenience.

5157. *Walker on the Use of Strychnine to Prevent Flooding.*—In the *Brit. Med. Jour.*, November 1885, p. 913, Dr. A. Walker states that strychnine, administered in conjunction with iron for a month before labour, exerts a remarkable influence in preventing *post partum* hæmorrhage in those who are thus predisposed.

5158. *Edis on the Prevention of Mammary Abscess.* In the *Brit. Med. Jour.*, November 1885, p. 864, Dr. A. W. Edis contributes a short note on the prevention of mammary abscess. It is stated that the best plan to adopt is to bandage the breasts by means of a few turns of rib-bandage, or to apply a thin towel or diaper across the chest, bringing the breasts well towards the sternum. This should be done on the second day following parturition. The patient's shoulders should be elevated somewhat, and merely a sheet should cover the upper part of the chest. The diet should be restricted, and only a small amount of fluid allowed for the first few days. As a rule, this treatment is quite sufficient to ensure success.

5159. *Miall on the Prevention of Mammary Abscess.*—In the *Brit. Med. Jour.*, Nov. 1885, p. 964, Mr. Miall suggests the following treatment in cases where a mammary abscess is on the point of forming. An ounce of carbonate of ammonia is dissolved in a pint of boiling water; then cloths are dipped into the solution, and applied to the inflamed breasts. These must be assiduously applied for half an hour at least, and repeated if necessary in two or three hours' time. Relief is immediate, and more than three applications are seldom necessary.

5160. *Goodell on Inflammation of the Parotid Glands following Operations on the Female Genital Organs.*—In the *Philadelphia Med. Times*, October 1885, is recorded a paper read by Dr. Goodell before the American Gynæcological Society. The author refers to a case of incision of the neck of the uterus, which was followed by suppuration of the parotid gland; also to a case of ovariotomy, in which a parotid bubo occurred. Several medical men present also recorded similar cases. One patient suffered from swelling of both parotids after ovariotomy. Another patient suffered in the same way after operation for vesico-vaginal fistula. Two fatal cases of suppuration after Tait's operation were recorded, and one after hysterectomy, which recovered. (Vide *Medical Digest*, sect. 1161 : 1.)

RICHARD NEALE, M.D.

5161. *Apostoli and Doléris on Circum-uterine Hæmatocele.*—MM. Apostoli and Doléris recommend treating circum-uterine hæmatocele by negative galvano-puncture. According to these operators, it rapidly cures. Its action is twofold; surgical, by creating a fistula in the solid effusions, the neoplasms, the walls of cysts, &c., and thus effecting a permanent means of elimination; and medical, by provoking disintegration of the tissues, followed by rapid and manifest resolution.

W. VIGNAL.

5162. *Speth on True Hypertrophy of the Mammary Gland.*—Dr. E. Speth describes a case of this affection, recently under the care of Professor Helferich, in Munich. The patient was 26 years of age; she had been subject to anæmia and amenorrhœa, had married at the age of twenty-one, and when under observation was at the end of her fifth pregnancy. During each pregnancy, the right breast had become very painful, and steadily increased in size; and after each labour it had diminished, without ever returning to its normal bulk. On account of the inconvenience caused by the weight of the breast, the patient repeatedly sought medical advice. The affected breast attained a maximum weight of about twenty pounds, it hung down as far as the anterior superior spine of the ilium, and its highest circumference was sixty-four centimètres. Six large tough glandular lobules could be detected in its substance. The enlargement remained till the sixth day after labour, and then the breast invariably began to diminish in size. The hypertrophied breast secreted no milk. Amputation was not permitted by the patient. Dr. Speth believes that true hypertrophy of the breast is very rare, and goes so far as to say that an indisputable case is unknown. In most of the recorded cases, the hypertrophy was combined with fibroma or sarcoma. The disease appears to be an inflammatory process, accompanied with serous infiltration into the tissues of the breast and much consequent swelling, which leads to an unusually abundant development of the interstitial connective tissue, which greatly increases in the later stage of the hypertrophy, and through contraction causes atrophy of the glandular substance. No treatment but amputation will give permanent relief, though the hypertrophied breast involves little risk to the patient, excepting a chance of very acute inflammation, and possible suppuration during pregnancy or parturition. ALBAN DORAN.

5163. *Vulliet on Dilatation of the Uterine Cavity.*—At a recent meeting of the Medical Society of Geneva (*Rev. de Thérap.*, Jan. 1886), the author described a method by which the interior of the uterine cavity can be made visible and even photographed. The patient having been placed in the genu-pectoral position, the cervix uteri is dilated at first by means of urethral bougies, or of laminaria tents; later on, plugs of cotton-wool, impregnated with iodoform, are used. They produce slight uterine colics, and must be changed every forty-eight hours. After from nine to thirty-five days the dilatation is complete, and the whole of the uterine cavity can be seen. This method has been applied by M. Vulliet in thirteen cases of carcinoma and myoma uteri. It facilitates the application of local remedies, and the introduction of the plugs seems to act favourably on the nutrition of the uterine tissue itself. J. S. KESER, M.D.

MEDICAL CHEMISTRY.

RECENT PAPERS.

5164. LYONS.—Estimation of Urea. (*Pharmaceutical Record*, May 1885.)

5165. VERNEUIL.—Rose-coloured Urine. (*Wiener Med. Blätter*, No. 26.)

5166. CHITTENDEN, PROF., AND CUMMINS, G. W.—On the Relative Digestibility of Fish-flesh in Gastric Juice. (*Amer. Chem. Jour.*, vol. vi., No. 5.)

5167. BRIEGER.—The Decomposition-Products of Bacteria. (*Zeit. für Phys. Chemie*, Nov. 1884.)

5168. SALKOWSKI, E.—Products of Decomposition of Albumin. (*Zeit. für Phys. Chemie*, Dec. 1884.)

5169. SALKOWSKI. E.—The Behaviour of Skatol-Carbonic Acid in the Organism. (*Zeit für Phys. Chemie*, December 1884.)

5170. CHANDELON, DR.—New Methods for the Detection and Determination of Strychnine, as well as of some other Alkaloids, in Cases of Poisoning. (*Zeit. für Phys. Chemie*, January 1885).

5171. SCHULTZE, E.—Investigations upon the Amido-Acids generated in the Decomposition of Albumins by Hydrochloric Acid and Baryta Water respectively. (*Zeit. für Phys. Chemie*, March 1885.)

5172. BUNGE, G.—Analysis of the Inorganic Constituents of Muscle. (*Zeit. für Phys. Chemie*, Feb. 1885.)

5173. GREEN.—The Practical Utility of Estimating the Amount of Urea passed Daily. (*Brit. Med. Jour.*, Dec. 1885, p. 1055.)

ART. 5164. *Lyons on the Estimation of Urea.*—The hypobromite process, from its rapidity and simplicity, has well nigh superseded Liebig's mercurial method; but, unfortunately, the instability of the solution, requiring it to be always freshly prepared, is a difficulty in the way of its use by the general practitioner. Dr. Squibb suggested substituting the liquor sodæ chlorinatæ; but Dr. A. B. Lyons finds that the hypochlorite does not decompose the whole of the urea present, however much be used. To overcome this objection, he has so modified the process as to get results constant and identical with those yielded by the original method. He converts the hypochlorite into a hypobromite by adding to 25 cubic centimètres of the liquor sodæ chlorinatæ, which are sufficient to reduce the whole of the urea in 4 cubic centimètres of urine, 5 cubic centimètres of a 20 per cent. solution of potassium bromide, a few minutes before introducing the urine. The solution should fulfil the requirements of the United States Pharmacopœia, in containing at least 2 per cent. of available chlorine. Sometimes it is necessary to add some caustic soda, 2 to 5 cubic centimètres of a 10 per cent. solution, in order to absorb the whole of the carbonic anhydride evolved. The reagents are always easily procured.

5165. *Verneuil on Rose-coloured Urine.*—Verneuil, who has since the year 1867 directed his attention to this phenomenon, has at length come to the following conclusions, which he stated at the recent Congress of French Surgeons. 1. Occasionally, after wounds or operations, the urine deposits a sediment of a rose colour, visible to the naked eye, and adhering to the utensil, consisting of a substance that has been designated roseic acid. 2. This usually concurs with a scanty secretion of highly concentrated urine, consequent on injury. It appears early and is transient, rarely persisting longer than three or four days, and is thus often overlooked. 3. It occurs after wounds and operations of every kind in persons previously healthy, and in the subjects of constitutional disease, the robust, and the feeble; but a more minute inquiry into the antecedents of the patient, its coincidence with other symptoms, and *post mortem* investigations show that it is specially connected with certain lesions of the liver, as cirrhosis, chronic congestion, cancer, and hydatids. 4. Of hepatic affections, those consequent on alcoholism seem most apt to give rise to rose-coloured urine under the immediate stimulus of injury, whence it occurs most frequently in the case of intemperate persons. 5. Rose-coloured urine has thus a real symptomatic value, since it enables one to confidently infer a diseased condition of an important viscus, which is often latent and difficult of recognition, through exerting an unfavourable influence on the course of lesions and surgical operations. 6. Not less important is the prognostic value of the symptom in question, since it is always accompanied by complications at the seat of injury or operation, the gravity of which is connected with the extent, nature, and degree of the hepatic lesion; indeed, in Dr. Verneuil's experience, it has very frequently been followed by consecutive hæmorrhage and gangrene. 7. To obviate the occurrence of such complications, the utmost attention should be paid to the employment of all measures suggested by modern surgery for arresting such hæmorrhage, and for insuring asepsis of the wounds before, during, and after operation, especially when there is the least ground for suspecting cirrhosis or other disease of the liver. E. F. WILLOUGHBY, M.B.

5166. *Chittenden and Cummins on the Digestibility of Fish-flesh in Gastric Juice.*—The value of food as nutriment depends primarily on the presence in it, in suitable quantity, of elements or combinations of elements capable of supplying the needs of the body; coupled with which, however, is their digestibility, that is, the ease with which the food stuff in question can be rendered available by the system for its wants. The digestibility of food may be determined in one of two ways: either, as was done by Beaumont in the case of Alexis St. Martin, by introducing a weighed amount of the substance into the stomach through a fistulous opening, and noting the length of time required for its solution; or by using an artificial gastric juice, and then determining quantitatively the amount of substance dissolved and digested by it in a given time. The latter was the method adopted in the present experiments. The artificial gastric juice employed was made by dissolving 5 grammes pure pepsin in 1 litre of dilute hydrochloric acid (0·2 per cent.). The flesh was prepared by weighing 100 grammes, freed from tendons, fat, skin, and bone, and finely dividing it by chopping. The proportion of solids was determined in the usual way, by drying small portions at 100° C. until of constant weight. Two portions of 20 grammes each were next weighed out, cooked in a steam-bath, and then ground fine. Each portion was then placed in a beaker with 200 cc. of the artificial gastric juice, covered with a watch-glass, and set in a vapour-bath for twenty-two hours, the temperature being maintained at 38° to 40° C. The amount digested was determined as follows. The mixture is cooled to 20° C., diluted to 250 cc. with distilled water and filtered; 50 cc. of the filtrate are next transferred by a pipette to a small weighed dish, and to it are added 5 cc. of standard solution of sodic carbonate, of such strength as exactly to neutralise the acid present; it is then evaporated to dryness. To correct for any albumin that may be present in the pepsin the same procedure should be adopted, and any residue obtained should be deducted from the weight of the residue left by the digestive mixture; the difference multiplied by five will give the amount of matter (peptones, intermediate products, and some salts) dissolved out of the 20 grammes of flesh. In the following table, the average results are given for each sample of cooked flesh, the numbers expressing the relation of the amounts digested to the amount of cooked beef similarly digested (20 grammes of cooked beef yielding 4·0461 grammes of peptone). The digestibility of raw beef would appear to be considerabl greater—though possibly slower—than that of cooke beef: nearly in the proportion of 142 to 100.

Beef	100	Flounder	85·3
Veal	94·89	Herring	82·3
Mutton	92·15	Trout	78·4
Lamb	87·93	Fresh Cod	72·3
Spring chicken—		Eel	71·8
Light meat	86·72	Lobster, young	87·8
Dark meat	84·42	„ large female	79·0
Shad	90·09	„ „ male	69·1
Salmon	89·92	Crab	80·4
Mackerel	86·24		

5167. *Brieger on the Decomposition-Products o Bacteria.*—Five per cent. grape-sugar solutions wer employed, which were sterilised after the addition o some watery pepton-gelatin extract of beef, and the impregnated with a small quantity of the pneumonia-coccus taken from a fresh culture. The containin flasks were set aside in an incubator at 36–38° C The combined distillates of two cultures, which ha stood seven days in the incubator, when boiled wit suboxide of silver, gave a crystallised silver salt containing 64·89 per cent. of silver; and from th distillate of a culture which had been kept in th incubator at 36-38° C. for two months, a silver salt crystallising in fine needles and containing 63·66 pe cent. of silver, was similarly obtained. The culture products were alkaline in reaction, and had the following composition: water, 84·20 per cent.; solids 15 80 per cent.; fat, 1·74 per cent.; ash (in the solid dried at 110° C. and free from fat), 4·22 per cent. nitrogen (in the dry and fat-free solids), 10 per cent The ash consisted of calcic and magnesic phosphates, together with sodic sulphate and chloride The organic matrix of the pneumonia-coccus wa not completely soluble in water; but the solution although not precipitated by Nencki's mycoprotei process, was precipitated by boiling, being dissolve again, however, when warmed after the addition o dilute nitric acid. Precipitates were also obtaine with the ordinary albumin precipitants. Neithe glycogen nor ptomaines could be detected.

5168. *Salkowski on Products of Decomposition o Albumin.*—In addition to indol and skatol, the author has found another body, skatol-carbonic acid present among the decomposition-products of albumin, and it is with this body the present paper deal exclusively. Skatol-carbonic acid is not volatile and is separated only with difficulty. When analyse it gives this formula: $C_{10}H_9NO_2$. It is monobasi in its properties, and its dilute solutions yield a slowly formed crystalline precipitate with acetate o lead, but no precipitate or only a slight turbidity i the cold with cupric acetate, mercuric and ferri chlorides, and silver nitrate. Very characteristic however, is the dirty greyish-blue precipitate give with very dilute ferric solutions when warmed. Thi last precipitate is bluish-red with transmitted an whitish-grey with reflected light; and, when carefull acidified with hydrochloric acid, it throws dow directly a greyish-violet coloured pigment which when collected and washed on a filter, dissolve readily in alcohol, forming a bluish-red solution. I decomposing albumins, this acid can be easily recognised by evaporating 30 to 50 cubic centimètres of th solution to about one-fifth of its volume, then acidifying, shaking with ether, and afterwards agitating th ether extract with weak solution of sodic carbonate To this, the above test can be applied. The quantit of the skatol-carbonic acid present increases wit the duration of the decomposition.

5169. *Salkowski on the Behaviour of Skatol Carbonic Acid.*—This acid is a constant decomposi tion-product of every decomposition of albumin that has lasted some time. As the result of his experiments, Salkowski concludes that it is formed during life in certain of the decompositions occurring in the alimentary canal; and as, when once formed, it resists the action of bacteria, some of it is reabsorbed as such and appears in the urine, of which, indeed, it may almost be regarded as a normal constituent. In his first] experiments, he introduced a certain weight of the acid into the stomach of rabbits, and then analysed the urine passed, when he found that even with very small weights its presence could be readily detected. The iron reaction was found to be very delicate; for, when to a solution containing 1 in 10,000 parts a few drops of hydrochloric acid were added and then 2 or 3 drops of a dilute solution of ferric chloride (liq. fer. sesq. G. Ph., 2 cubic centimètres to 100 cubic centimètres of water) and heat applied, the mixture acquired an intense violet before the boiling point was reached. With even more dilute solutions, the reaction could be satisfactorily obtained. The plan of separation adopted was the following. The urine was evaporated down, and extracted with absolute alcohol; this extract was evaporated to dryness, the residue dissolved in water, and the solution strongly acidified with sulphuric acid, then shaken up with ether, and, the ethereal extract having been evaporated in turn, the residue was dissolved in hot water and filtered. The filtrate was rendered alkaline by the addition of sodic carbonate, shaken up again with ether, evaporated, and the residue dissolved in absolute alcohol; the filtered extract was next treated with its own volume of ether; and finally the alcoholic ethereal extract was evaporated, acidified with hydrochloric acid, and shaken up with ether. From this last extract the skatol-carbonic acid crystallises out. Professor Salkowski concludes that, although a certain proportion of this acid when introduced into the body disappears, yet even very small quantities of it so introduced can be recovered in the urine; accordingly, that, if skatol-carbonic acid is built up in the body, it must be recognisable in the urine. This he readily found to be the case with human urine. Some litres of this fluid were evaporated, extracted with absolute alcohol, the extract evaporated, and the residue strongly acidified with sulphuric acid and extracted with ether. The ether solution was then shaken with solution of sodic carbonate, the solution obtained was evaporated, and the residue extracted with absolute alcohol. The last extract was next evaporated and again extracted with alcohol; the alcoholic extract was filtered, treated with its own volume of ether, decanted, and evaporated to dryness. To the residue some hydrochloric acid was added, and the mixture extracted with ether. This ether extract was again evaporated, extracted with hot water, filtered after cooling, once more evaporated, and again dissolved in water. The clear solution thus obtained gave the reactions clearly.

5170. *Chandelon on the Detection and Determination of Strychnine and Other Alkaloids.*—Dragendorff has observed, in reference to the employment of Stas's method for the separation of strychnine, that, if this alkaloid have passed from the amorphous to the crystalline modification, it is no longer very soluble in ether, and accordingly requires the employment of a great quantity of this body. Other solvents have, therefore, been tried by chemists, such as benzin, amyl-alcohol, and chloroform. The last has been found the best. But, when watery alkaline solutions of organic substances are shaken with chloroform, we unfortunately very frequently obtain sticky emulsion-like masses, which do not admit of separation into two sharply defined layers on the addition of alcohol. To avoid this difficulty, the author does not treat the alkaline solution directly with chloroform, but first reduces the solution to a small bulk by evaporation, then mixes it with well-dried gypsum, and when the mass has set firm it is extracted with chloroform, and from the latter it is deposited as crystalline oxalate, after the addition to the chloroform-extract of an ethereal solution of oxalic acid. This is the method adopted: Cut up the entrails of the poisoned animal very fine, and mix with an equal weight of well-dried gypsum; grind the mixture well in a mortar, and after the lapse of four to five hours, dry the mass for some time at 70° C.; then break it into small pieces, which are to be reduced to fine powder, and this boiled with alcohol (90 per cent.) to which some acetic acid has been added in the proportion of 1 part of the glacial acid to 100 parts of the freshly weighed organic substance. After boiling for an hour, filter, and wash the residue on the filter with more hot alcohol. The total filtrate is next to be distilled, care being taken that it is markedly acid. As soon as most of the alcohol has been distilled off, the distillation is stopped, and the residue evaporated to dryness over a water-bath. The dried residue is now to be dissolved in very little boiling water, allowed to cool, and filtered to separate the fat, the filtrate reduced to a volume of 20 to 25 cubic centimètres, then rendered markedly alkaline with caustic soda, and at once transferred to a large watch-glass, where it is mixed with gypsum. When the mass has hardened it is to be powdered, the powder dried over sulphuric acid, and finally extracted with chloroform in a large Soxlet's extractor. The chloroform-extract, after having been reduced to a small volume (10 to 15 cubic centimètres), if necessary, is filtered, and an equal volume of a saturated ethereal solution of oxalic acid is added. Strychnine oxalate is quickly deposited in bundles of pure needle-shaped crystals. Collect the deposit on a filter, wash it with a mixture of equal parts of ether and chloroform, dry it, and finally dissolve it in as little water as possible. Upon the addition of ammonia to this solution, the strychnine is thrown down in needles. By this means, very small quantities of the poison were detected when administered to animals for experiment. Experiments were also made with brucine, narceine, papaverine, thebaine, morphine, aconitine, atropine, hyoscyamine, veratrine, nicotine, coniine, and colchicine; and it was found that morphine, narcotine, and colchicine were the only alkaloids with which the method did not succeed, on account of their insolubility in chloroform. The rest were completely precipitated as oxalates, the precipitates appearing in a few minutes, or after a few hours, with strychnine, brucine, narceine, codeine, nicotine, and coniine; and inside twenty-four hours with the remaining alkaloids. The deposits were also crystalline, with the exception of that of aconitine, which was amorphous.

5171. *Schultze on Amido-Acids in the Decomposition of Albumin.*—This is a very long paper, in which the results of Hlasiwetz and Habermann, and also those obtained by Schützenberger, are discussed. A record is also given of the results of experiments in which the albumin (100 parts by weight) obtained from pumpkin-seeds, as well as of conglutin, was heated three to four days with a mixture of zinc chloride (75), hydrochloric acid (200), and water (200). The different decomposition-products, such as tyrosin, leucin, glutamic acid, and phenylamidopropionic acid, are treated of and described in detail; as also the results of the decomposition of conglutin by means of baryta water. When the results thus obtained are compared with those of Ritthausen, as well as with those of Hlasiwetz and Habermann, a difference shows itself in that while these observers obtained aspartic and glutamic acids, leucin, and tyrosin, Schultze has obtained in addition phenylamidopropionic acid.

5172. *Bunge on the Inorganic Constituents of Muscle.*—The author's analysis gave the following results in 1,000 parts :—

	Fat-free Beef.	Beef rich in fat.
K_2O	4·654	4·160
Na_2O	0·770	0·811
CaO	0·086	0·072
MgO	0·412	0·381
Fe_2O_3	0·057	—
P_2O_5	4·674	4·580
Cl'	0·672	0·709
$SO_3$2	—	0·010
S2	—	2·211

It is worthy of remark that the quantity of sulphuric acid proceeding from the splitting up and oxidation of the muscle albuminate is alone sufficient to saturate all the basic constituents of muscle, as the following table shows :—

2·211 S = 5·527 SO_3 saturate 4·284 Na_2O.
4·160 K_2O = 2·737 Na_2O
0·811 Na_2O = 0·811 „
0·072 CaO = 0·080 „
0·381 MgO = 0·591 „

4·219 Na_2O

Of the sulphur of the food, about 85 per cent. appears as sulphuric acid in the urine. In addition to sulphuric acid, the muscle contains, as electro-negative constituents, considerable quantities of phosphoric acid and chlorine. In the organism, however, there are many means at command whereby the appearance of free acids is prevented; for example, by the generation of ammonia, kreatinin, sulphurous acid, and aromatic organic sulphuric acid combinations. T. CRANSTOUN CHARLES, M.D.

5173. *Green on the Practical Utility of Estimating the Amount of Urea passed Daily.*—In the *Brit. Med. Jour.*, Dec. 1885, p. 1055, Mr. W. E. Green contributes a paper on the subject of estimating the amount of urea passed daily in the urine of patients suffering from chronic Bright's disease. Urea is not only derived from tissue-waste, but is also the form in which the excess of the albuminoid elements of our food is cast out of the body. The author describes Dr. Squibb's apparatus for the approximate estimation of urea. This method depends on the fact that a solution of hypochlorite of sodium will decompose urea, and liberate its nitrogen in the free state. This nitrogen, being collected and measured, will, by calculation, give the amount of urea present. To save trouble, a table is supplied with the apparatus, which shows the percentage of urea, and the quantity contained in a 16-ounce pint. The value of knowing the amount of urea passed is great, as it shows the condition of the kidney, and its capability of getting rid of a waste product, the retention of which in the system will cause great and increasing discomfort. If a patient pass about 50 ounces of urine during the twenty-four hours of a specific gravity of 1015 or less, and the amount of urea present be below 2 per cent., then the kidneys are not doing their duty. A person in good health should pass about 500 grains of urea in the twenty-four hours, but a large margin may be allowed on either side, according to habits; but it may be stated that, if the quantity regularly passed be less than 300 grains, there is something amiss with the health of the patient. The author records some cases in which he has estimated the amount of urea excreted, and they show how the symptoms always improved in proportion to the amount of urea passed.

RICHARD NEALE, M.D.

SYPHILOGRAPHY.

RECENT PAPERS.

5174. HARRISON.—On the Treatment of some Chronic Forms of Suppuration from the Male Urethra. (*Lancet*, Sept. 5, 1885.)

5175. BLACKMORE.—Case of Syphilitic Ulceration of the Intestine. (*Ibid.*, Oct. 3, 1885.)

5176. Syphilis in Cape Colony. (*Ibid.*, Oct. 17, 1885.)

5177. BROADBENT.—Syphilitic Disease of the Brain. (*Ibid.*, Oct. 24, 1885.)

5178. LEE.—Gumma of the Ocular Conjunctiva. (*Ibid.*, Oct. 31, 1885.)

5179. WOAKES.—Syphilis as a Factor in Ear-Disease. (*Brit. Med. Journ.*, Oct. 3, 1885.)

5180. CARRINGTON, R. E.—The Macular or Pigmentary Syphilide. (*Ibid.*, Oct. 10, 1885.)

5181. LAWRIE.—The Treatment of Acute Gonorrhœa. (*Indian Med. Gaz.*, October 1885.)

5182. PHILLIPS.—A Case of Syphilitic Hemiplegia. (*Lancet*, Dec. 1885, p. 1049.)

5183. PARSONS.—The Treatment of Syphilis with Tannate of Mercury. (*Med. Times and Gaz.*, Dec. 1885, p. 869.)

5184. KHRÜL, ALEXANDR V.—On a New Method of Treatment of Gonorrhœa. (*Proceedings of the Eastern Siberian [Irkutsk] Medical Society*, 1885, p. 34.)

5185. SEMTCHENKO, D. G.—On a Case of Acute Parenchymatous Nephritis Caused by Gonorrhœal Conjunctivitis. (*Vratch*, No. 45, 1885, p. 748.)

ART. 5174. *Harrison on the Treatment of Chronic Forms of Suppuration from the Male Urethra.*—Mr. Reginald Harrison relates (*Lancet*, Sept. 5, 1885) the case of a patient, aged 34, who consulted him for an intermitting purulent urethral discharge, resulting from gonorrhœa contracted four years previously. He had used injections of various kinds, including a deep injection of a strong solution of nitrate of silver; and internal urethrotomy had been performed some weeks before he came under Mr. Harrison's care. On examination, all that the author could detect abnormal was a slight contraction behind the bulb at the site of the internal urethrotomy. It appeared to him 'that the urethra in some part was of the nature of a suppurating sinus, . . . which could neither be efficiently drained nor irrigated.' The patient's life had been rendered miserable for four years by the discharge; and, after what had been done, he had but little hope of getting rid of his ailment; it was therefore determined to keep the urethra at rest for some weeks, and to prevent urine from coming into contact with it. With this object, Mr. Harrison opened the membranous urethra on a grooved staff, and drained the bladder for twenty-five days. The urethra was frequently washed out with tepid water from the meatus, the fluid escaping through the perineal wound. In ten days after the tube was removed, the wound had healed. Nearly twelve months later, the patient said he had not seen a drop of discharge from the urethra since the operation, and there were no signs of stricture.

5175. *Blackmore on a Case of Syphilitic Ulceration of the Intestine.*—A prostitute, aged 25, came under the care of Mr. A. Blackmore, at the Manchester Lock Hospital, on June 15, 1885, complaining of great pain about the vulva and vagina (*Lancet*, Oct. 3, 1885). On examination, those parts were found swollen, red, and very tender, and there was a copious sero-purulent discharge. There were also numerous copper-coloured patches on the arms, legs, and thighs. She had had syphilis some time within the last three years. The mouth and throat were free from ulcers. The patient had been drinking much, and was in a generally low condition; temperature 99°. On the two days succeeding admission, the local condition improved under treatment. The bowels were loose, and the temperature was normal. On the 18th there was copious hæmorrhage from the bowels; this recurred, to a large extent, from time to time till July 6, when the patient became collapsed, and died. The temperature never exceeded 99°·2, and there was but little pain or other symptoms than those arising from loss of blood. At the *post mortem* examination, twenty-four hours after death, the viscera appeared fairly healthy to the naked eye; the liver was firmer than usual; the spleen was of normal size, colour, and consistence; and the mesenteric glands were healthy. The uterus was intensely congested, with submucous hæmorrhage. The mucous membrane of the small intestine was red, the blood-vessels being much injected; but Peyer's patches were not more affected than other parts, and were not more distinct or prominent than normal. From the cæcum to the middle of the colon the mucous membrane was studded with sharply cut circular ulcers, varying in size from a pin's head to a sixpence, and nodules varying from the size of a dot to that of a split pea, in various stages of ulceration. Some of the ulcers were superficial; others had perforated the muscular coat. The lower part of the colon and the rectum appeared healthy. The peritoneal surface of the bowel was healthy, and there was no evidence of peritonitis anywhere. The exact source of the bleeding was not discovered.

5176. *Syphilis in Cape Colony.*—The *Lancet*, Oct. 17, 1885, says *The Friend of the Free States and Bloemfontein Gazette* gives a sad account of the spread of syphilis in Cape Colony. The *Gazette* speaks from memory, but thinks that one out of every three of the colonial coloured population is syphilised. The disease is especially rife in Basutoland and in the Barolong Territory, not only among the natives, but in many places among the burghers and their families. The disease is spread by filthy habits, even among those who are not guilty of sexual immorality.

5177. *Broadbent on Syphilitic Disease of the Nervous System.*—At a meeting of the Medical Society on October 19 (*Lancet*, Oct. 24, 1885) Dr. Broadbent, in a paper on examples of syphilitic disease of the brain and nervous system, remarked that syphilis gave rise to diffused and localised inflammation of any part of the brain and spinal cord; it also produced thrombosis in vessels where emboli were not liable to lodge, and gummata. Brief accounts were then given of cases of syphilitic disease of the brain. In one case, seen in 1872, there were headache, paresis, and mental defect, which improved under antisyphilitic treatment. In another case there was spinal meningitis in 1866, and the next year convulsions, followed by facial palsy and mental exaltation, from which the patient partly recovered under treatment. A case in which convulsions, pyrexia, headache, vomiting, and squint were the prominent symptoms, recovered completely after treatment. The case of a governess, aged 30, proved fatal after some years, during which the symptoms were epileptiform convulsions, headache, paralysis of the third and later of the sixth and left seventh nerves also, with occipital pain and tenderness. Each time, improvement followed treatment by iodide of potassium; but epileptiform seizures occurred at intervals with strange ideas, and finally loss of power of walking. After death a gumma was found in the right crus cerebri, with softening there and in the pons Varolii. Hæmorrhage had occurred from the cerebral peduncle, and had penetrated the lateral ventricles. A case of thrombosis of the middle cerebral artery was also mentioned; and another in which mental symptoms closely simulating those of general paralysis were the most marked features. In another case, there was clonic spasm of the healthy fore limb during walking, and tonic spasm of the paralysed limb while the patient was awake. Both spasms disappeared during sleep. The last case referred to was that of a lady who had 'rheumatic' pains, with paresis of the right external rectus, anginoid pain, and proptosis, from blocking of the ophthalmic vein.

5178. *Lee on a Case of Gumma of the Ocular Conjunctiva.*—Mr. C. G. Lee reports (*Lancet*, Oct. 31, 1885) the case of a man, aged 44, who came under treatment at the Liverpool Eye and Ear Infirmary. The patient said he had become very wet while working in the sewers a fortnight previously, and that his right eye became inflamed a day or two afterwards. There was a history of primary syphilis twenty years before. On examination, the right lower lid was seen to be slightly swollen and congested, and on everting it an ulcer with thickened edges was exposed on the ocular conjunctiva. From the caruncle, half of which had been destroyed, the ulcer extended upwards for about 2 millimètres and downwards for about 5 millimètres. The pre-auricular gland was not enlarged. The right half of the uvula had disappeared, as well as part of the soft palate, and the remainder was inflamed with thick irregular edges, resembling those of the ocular ulcer. Nitric acid was applied to the ocular ulcer, followed by a mixture of iodoform and glycerine. Under treatment by mercury and iodide of potassium, the ulcers of both eye and throat healed in about five weeks.

5179. *Woakes on Syphilis as a Factor in Ear-Disease.*—In a paper on this subject in the *Brit. Med. Journ.* (Oct. 3, 1885), Dr. Woakes first considers syphilis as a cause of persistent otorrhœa due to caries. Syphilitic caries is not readily distinguished by its appearance from caries otherwise produced; but it is frequently symmetrical in both ears, and, unlike idiopathic caries, does not often yield to the application of dilute sulphurous acid. In illustration, a case is reported of a young man who had in the left ear a rough dry spot, just above and in front of Shrapnell's membrane in the roof of the external auditory canal. Examination with a probe detected exposed bone. In the right ear, at a spot corresponding to that in the left, there was a circular grey film of pus, beneath which also the bone was exposed. Some months later, both spots had become perforations, through which a probe passed into the tympanic cavity on each side. There was a history of chancre seven years previously, and on the left cheek were some just-healed cicatrices of tertiary ulceration. The existence of syphilis is not often so clear as in the preceding case; but the diagnosis is most important, because the ear-lesion will not heal without specific treatment. For example, a woman, aged 35, had obstinate suppuration of the left middle ear, with vertigo, tinnitus, headache, and pains in the neck, and there was no evidence of syphilitic taint. Leeches were applied behind the ear, and on one occasion Dr. Woakes noticed that the scars of the leech-bites became copper-coloured. This suggested syphilis to Dr. Woakes. In the meantime, a small granulation appeared behind a perforation in the drum-head, and the probe detected rough bone in the floor of the tympanum. As soon as the gums became affected by specific treatment, the bronzing of the leech-bites disappeared, and the patient rapidly improved: iodoform was used locally. In doubtful cases, the application of leeches is suggested; and, if the cicatrices 'afford the required information' (*i.e.* become copper-coloured), Dr. Woakes says, 'a decisiveness will be thereby imparted to the treatment, . . . while the silent nature of the testimony thus afforded will save painful and almost useless interrogatories.' A case of gumma of the middle ear is given. A man, aged 25, complained of deafness in the left ear. There was a history of chancre two and a half years previously, for which he had been treated with mercury for six weeks. About three months before coming under the author's care, he had observed several brownish patches on the genitals, which disappeared without treatment. The tympanic membranes were normal, but through the left an opaque substance, very closely applied to its inner surface, was visible. The opacity was densest opposite the posterior segment. The Eustachian tube was patent, but catarrhal. There was persistent tidal tinnitus in the left ear. No improvement having taken place in a week under the use of an alkaline lotion for the nose, and the application of a solution of iodoform in ether behind the ear, Dr. Woakes's previous suspicion of gumma was confirmed, and mercurial inunction was ordered. A fortnight later, the opaque substance had disappeared, leaving visible the long process of the incus which it had formerly obscured. A case of syphilitic ulceration of the external ear, in which a gumma involved the tragus and adjacent parts of the external meatus, is next mentioned. The patient had also syphilitic disease of the larynx, with partial stenosis. Specific treatment resulted in recovery from both affections. In conclusion, Dr. Woakes remarks that no part of the auditory apparatus is exempt from the inroads of syphilis. He is also satisfied that many cases of so-called strumous otorrhœa in children are due to inherited taint. Cleanliness, with the insufflation of iodoform, will often cure such cases; and their diagnosis will be greatly aided by the detection of traces of old keratitis, scars about the angles of the mouth, &c.

Arthur Cooper.

5181. *Lawrie on the Treatment of Acute Gonorrhœa.*—In the *Indian Med. Gaz.*, October 1885, Surgeon-Major Lawrie records a new method for the treatment of acute gonorrhœa. Two leeches are applied to the inflamed penis, and two to each groin. He administered every two hours 15 minims of antimonial wine. A very hot urethral injection, consisting of 1 in 15,000 of corrosive sublimate, is used every hour. In less than forty-eight hours, very marked benefit resulted. During the next week, the injection is gradually increased to 1 in 5,000, and used less frequently. Cases recover very quickly, and without a bad symptom.

5182. *Phillips on a Case of Syphilitic Hemiplegia.*—In the *Lancet*, December 1885, p. 1049, is noted a case shown by Dr. Sidney Phillips, at the Harveian Society, of a man aged 37, who had contracted syphilis seven years previously, and who, in addition to occasional headache, had had three epileptiform seizures within the last twelve months. In August 1885 the right third nerve became paralysed, and a few days later the right limb and the right facial muscles. The patient was treated with twenty-five-grain doses of iodide of potassium , and one drachm of solution of perchloride of mercury; by this means he was soon cured of his hemiplegia, but there was only slight improvement in the ptosis. Whilst under treatment, the patient had two attacks of painless conjunctivitis of the right eye. Dr. Phillips considered that the lesion was due to disease in the left half of the brain, causing hemiplegia, and that the right third nerve was implicated at the base of the skull.

5183. *Parsons on the Treatment of Syphilis with the Tannate of Mercury.*—In the *Med. Times and Gazette*, December 1885, p. 869, Mr. Parsons publishes notes of seventeen cases of syphilis treated with the tannate of mercury. It was prescribed in the form of a pill, in doses of one and a half to two or three grains, three times a day, one hour before meals. It seemed possible to continue its administration for any length of time without disturbing the patient's system. The author gives the results of his treatment in a tabulated form. In many instances all symptoms disappeared within six weeks from the commencement of treatment.

Richard Neale, M.D.

5184. *Khrül on the Treatment of Gonorrhœa by Iodoform.*—Dr. Alexandr V. Khrül, of Irkutsk, recommends (*Proceedings of the Eastern Siberian [Irkutsk] Medical Society*, 1885, p. 34) the treatment of gonorrhœa after the method of Dr. Watson Cheyne (described in the *British Medical Journal*, 1881), somewhat modified, which he has successfully practised about two years. An ointment, made of one part of iodoform and ten parts of vaseline, is somewhat liquefied by heating, and then aspirated (by suction) into a fine elastic catheter, the latter being anointed externally with the same mixture, and introduced into the urethra to the depth desired. The ointment is blown out of the catheter by the operator's or patient's mouth, applied to the free end of the instrument. The advantages claimed for this plan by the author, on the ground of seventeen cases, are as follows. 1. It enables even deeper parts of the urethra to be subjected to direct action of iodoform. 2. While covering the urethral walls, the ointment gives them sufficient protection against any irritating influence of the urine. 3. The method enables us to get rid of internal administration of balsamic drugs, which are injurious, being apt to produce renal pain, albuminuria, and nephritis. 4. On the other hand, it enables one also to get rid of the treatment by watery injections, which do not allow any prolonged contact of the medicaments with the diseased mucous membrane. 5. The ointment produces a strikingly rapid narcotic and disinfectant action, the painful phenomena of the acute stage disappearing within twenty-four hours. The method is especially indicated in persons with irritable urethra and kidneys. The single drawback is the necessity of aspiring and insufflating the ointment by the mouth, which procedure may appear rather unattractive even to not over-fastidious people; however, it might be replaced by the use of an India-rubber contrivance.

5185. *Semtchenko on Acute Parenchymatous Nephritis in Connection with Gonorrhœal Conjunctivitis.*—In the *Vratch*, No. 45, 1885, p. 748, Dr. D. G. Semtchenko, physician to the Kazan Orphanage, contributes the case of a girl, aged 10½ months, who contracted gonorrhœal ophthalmia (either from another child or from a nurse), and in whom on the eleventh day of the eye-disease there appeared general weakness, listlessness, anorexia, progressive dropsy, turbid scanty urine with albumen, hyaline and epithelial casts, and blood-corpuscles; and, later, vomiting and slight diarrhœa. Under treatment by hot baths and tonics, the child markedly improved in three weeks, the albuminuria lasting for another two-and-half weeks. The eye-affection disappeared after twenty-five days, leaving slight punctated opacity of the inferior corneal segment. The author admits with Kroner that all complications observed in the course of gonorrhœal ophthalmia are dependent upon gonococcus, and accordingly concludes that the nephritis in this case was secondary to the ocular affection. [Dr. Semtchenko, however, does not mention whether he found any microbes in the conjunctival discharge or in the urine.—*Rep.*] V. Idelson, M.D.

REVIEWS.

Article 5186.

Von Ziemssen's Handbook of General Therapeutics. Vol. IV. The Treatment of Disease by Climate. By Dr. Herman Weber, translated from the German by Heinrich Port, M.D., M.R.C.P., Physician to the German Hospital, London, &c. General Balneotherapeutics. By Professor Otto Leichtenstern, translated from the German by John Macpherson, M.D., late Inspector-General of Hospitals. London: Smith, Elder, & Co. 1885.

The present volume, for which we have not had long to wait, forms a fitting sequel to its predecessor. The treatment of disease by climate is to some extent the pneumatic treatment on a grander scale, and *plus* several other factors not obtainable by the mechanical means at our disposal. Under the term climate we understand the combined result of the influences exercised by air, soil, and water on organic life in a given locality. The group of influences comprised under this head admits subdivision into several categories, each of which has its own particular importance, but which by their constantly shifting relations constitute what we call weather.

When we consider what an important bearing the weather has on our happiness and welfare, it is not surprising that it should be accorded a large share of our attention and conversation; indeed, it is the preponderance of one or other of the various factors during months, weeks, or days that constitutes the most salient feature in the climate of a region or place. Both climate and weather are dependent on a variety of causes, independently of the latitude and longitude of the particular region, and a knowledge of these is highly desirable in advising a change of residence. The complexity of the problem on all sides renders it a difficult task, especially as, apart from the fulfilment of special indications, we have to make allowance for individual idiosyncrasy.

Further, in endeavouring to acquire for our patients the benefits to be derived from a sojourn in a given locality, we have to bear in mind a host of adjuncts which are as indispensable as the primary conditions, *i.e.* the hotel-accommodation, facilities for out-door exercise and healthy amusement, not forgetting to insure proper hygienic precautions, without which the rest may prove of no avail.

The variations in the composition of the atmosphere are notoriously extremely small in amount, but they are not for that reason to be neglected. Not only do we bring an immense quantity of air into close contact with the blood in the course of a day, but this takes place without any great means of filtration or chemical purification, such as may take place in the stomach for food. Hence comparatively small departures from the standard proportion of its constituents, or the addition of even minute quantities of impurities, may, in the aggregate, have a marked and injurious effect on the organism.

The temperature and degree of moisture of any climate are elements of very great weight, and have to be carefully considered. Beyond the mere physical features of a climate, the effect on the patient's mind is of primary importance; because, if the patient be allowed to become downcast from the effect of gloomy skies or a monotonous horizon, the depressing influences of ill-health and home-sickness will outweigh whatever good results were to be anticipated from the change of residence.

Dr. Weber passes in review the health-resorts and stations of the known world, from Alexandria to Aberystwith, and from Rome to the Rocky Mountains, giving the physico-geographical conditions of each, together with particulars of their accommodation and therapeutic effects.

The value of the different elements which make up a climate are discussed with reference to their influence on the economy and on particular pathological conditions, and in this way the practitioner is placed in possession of definite data to guide him in the choice of climate. Although foreign stations naturally monopolise a large share of the author's attention, he wisely adds a few remarks on 'Home Climatic Treatment,' and points out the advantages to be derived from judicious change of employment and habits without the worry and expense of distant voyages. Even where the necessary modifications cannot be obtained in the patient's own home, a sojourn in a well-arranged establishment in a suitable spot in his own country may accomplish the wished for result.

Turning to the section on Balneotherapy, by Professor Leichtenstern, it is satisfactory to note the uncompromising manner in which he clears the ground of the charlatanism which has gone far towards bringing the 'water-cures' into disrepute. Nothing can exceed the irony of his remarks anent the absurd and contradictory phrases which abound in works on Balneotherapy, written for the most part by men who were pleading *pro domo*, and who willingly confuse the *post hoc* with the *propter hoc*. The author states his own candid opinion that, so far, our knowledge on the subject does not suffice to build up on it a satisfactory theory or explanation of the mode of operation of mineral waters in different pathological conditions. He consequently confines himself principally to the well-ascertained facts concerning the therapeutic action of the various methods of hydropathy, and troubles himself but little with their *modus operandi*. He deliberately scoffs at the electric reactions alleged to take place in the course of mineral water-baths, and declines to acquiesce in the view that the absorption of water or gases or non-volatile salts can take place or can have, indeed, any share in the result. The conclusion at which he arrived after numerous experiments by himself and other reliable observers tends to prove that, if water or salts or carbonic acid gas be absorbed, it is in such infinitesimal quantities that they must be utterly devoid of therapeutic effect. He makes an exception in favour of sulphuretted hydrogen and iodine which, from their volatile nature, do undergo absorption to some extent. There is an interesting series of observations on the physiological effect of hot and cold baths, and on the internal administration of hot and cold water, characterised by great clearness and originality. The therapeutic effects of the different classes of thermal and mineral springs are considerated separately, and as fully as space will allow.

In an appendix, the subjects of peat and slime baths, artificial mineral waters and baths, are dealt with; and a list of general diseases is given, with especial reference to the most suitable variety of bath or spring.

The volume is very readable, and the latter half is particularly easy reading. The translators have both kept up to the high standard of the preceding volumes.

ARTICLE 5187.

Surgical Diseases of the Kidney. By HENRY MORRIS, M.A., F.R.C.S. Cassell and Co. 1885.

MR. MORRIS has been so identified with the surgical treatment of diseases of the kidney, that one looks with more than ordinary interest to this work, which is one of the series of manuals for students and practitioners published by the enterprising firm of publishers who have somewhat recently launched into medical publishing. But the work is without doubt one of the most valuable and thorough monographs published, and deals with its subject in a masterly way. It is rather for the practitioner and hospital surgeon than for the student, and will be of acknowledged value as a reference in cases of surgical diseases of the kidney, and a thoroughly reliable guide to the operator. It would be almost too much to expect the student, except for the higher surgical examinations, to have to master such a manual, however attractive it may be. But these remarks only bear witness to the goodness and value of the work, and serve to emphasise the appreciation of Mr. Morris's monograph.

Beginning with a brief description of the normal regional anatomy, the author passes to the consideration of the malformations and other abnormal anatomical conditions of the kidney, subjects of much importance to the surgeon who may have to perform any operations upon the organ. In this part of the subject, he has added many facts from the rich storehouses which the *post mortem* records of some of the London hospitals and their museums afford. It is a pity that these are not more available to authors and others, by being published regularly and in some definite form in the various hospital reports, and even in some general report in which the whole body of registrars and curators could combine. Mr. Morris's facts and figures are taken mainly from the two hospitals with which he has been most connected, and show how much would be possible were a much larger field available to him.

Movable and floating kidney are carefully treated, and the surgical treatment for these in extreme cases only is acknowledged to be nephrorraphy. Malformation, absence of one kidney, want of symmetry, atrophy of one kidney, and solitary kidney, are fully treated in separate short chapters, and the pathology of these is considered. But the importance of knowing whether only one kidney exists warrants a special chapter upon the symptoms and diagnosis of this peculiarity. But the author allows that none of the methods at present suggested can be considered satisfactory. The curious case of M. Moulon, of Trieste, where both kidneys were reported to be absent, and yet only a supposed urinous discharge from the umbilicus replaced the natural outlet, is hardly accepted by the author as trustworthy. This patient lived to the age of 14, but the other cases of absent kidneys were all fœtal abnormalities, which were not consistent with life. But it is curious and important to the surgeon, as the author remarks, that abnormalities of the internal and external urinary organs co-exist.

The latter two-thirds of the book are occupied with conditions more likely to come under the notice of the practitioner and surgeon. Injuries to the kidney, abscesses and inflammatory condition around and in the substance of the kidneys, urinary fistula, so-called 'surgical kidney,' hydronephrosis, pyonephritis, and nephritis in its various forms, are very admirably discussed. Urinary fever and catheter fever are allowed to be important affections; but we miss any declaration of the author's opinion in support of or in opposition to the alarmist views as to the continued use of the catheter in the production of the latter.

There is a useful chapter upon hæmorrhage from the kidney as the result of catheterism, and another in which Mr. Morris considers the effect of renal disease in causing irritability of the bladder and prostatic enlargement; and he gives a careful diagnostic account of diseases of the kidney which simulate disease of the bladder. Renal calculus is perhaps the subject of greatest interest to the profession, and is fully treated; and accounts are given of cases in which nephrolithotomy has been performed. The author was the first to perform this operation in 1880, with a completely successful result; and the cases since reported make the value of this operation very great, but we are glad to notice the temperate language used by the author, and feel that the operation should not be rashly undertaken because it has proved successful in suitable cases and in experienced hands.

Other chapters are given to tuberculous and scrofulous kidneys, solid tumours of the kidney, and cysts of the organ; and, finally, one is devoted to the various operations which are available for relieving these surgical affections, and these are puncturing the kidney, nephrotomy, nephrolithotomy, nephrorraphy for fixing the kidney in position, and nephrectomy or entire removal of the organ.

In the consideration of the various subjects, the author is clear in his arrangement and in his language, and his views upon treatment are those of a surgeon of practical experience and sound judgment. It is pleasant to find one who is recognised as a bold operator express views as to treatment which are as cautious as they are judicious and practical. The work will doubtless form the standard work upon the subject with which it deals, and will be found worthy of the reputation of the author.

Article 5188.

A Manual of Microscopical Technology. By Dr. Carl Friedländer. Translated by S. Y. Howell, M.A., M.D., Buffalo. New York: Putnam's Sons.

This is a most useful little book; not a word is wasted, and the hand of the master is evident all through. The Abbé condenser and the water and oil immersion-objectives are first clearly explained, then other accessories, and then the various advantages of somewhat thick sections are enumerated. The author takes a very wide view of his subject, upon whatever he may be writing; *e.g.* in speaking of reagents, he writes thus: 'In our microscopical investigations, we are for the most part engaged not as observers only, but as experimenters, and our results are compounded accordingly of preformed structures on the one hand, and on the other of factors introduced by ourselves. The use of the microscope cannot always be regarded as something purely mechanical.'

Each reagent has a little essay to itself, its specific influence upon the tissues being thoroughly explained in easy flowing English. Staining is elaborately discussed, the advantages and disadvantages of each method being treated separately and exhaustively. But it is in the section on the demonstration of bacteria that the author is most profuse. Gram's method for the isolated staining of bacteria is called 'not only the best, but a well-nigh ideal method for effecting this result.'

Friedländer warmly recommends boiling for a few minutes as a means of preparing tissues for the microtome. 'They have now usually assumed a moderately firm elastic consistency, and may be cut with a razor directly; or the hardening may be completed in alcohol.' This method, suggested by Perls, and adopted by Posner, to precipitate and render evident the albumen, 'offers special advantages in the examination of the kidneys in cases of albuminuria; and of the lungs when œdema is present.'

The author has some most judicious remarks on the tubercle-bacillus. After declaring it to be a certain sign of the tuberculous process, he adds, 'Shall we further conclude from this that the individual in question is the victim of general tuberculosis, and therefore doomed? No; that would be a gross error. The bacillus of tuberculosis is present not only in those cases in which the disease is progressing more or less rapidly, and eventually becomes generally disseminated throughout the organism through the medium of the blood and lymph-vessels, but also where for years and decades it remains localised, and, it may be, finally heals completely, —*i.e.* in cases of local tuberculosis.' This is reassuring.

This book is written from the point of view of the pathologist, very little space, comparatively speaking, being taken up by the microscope *per se.* A better title would be 'The microscope as an aid in the study of disease.'

In conclusion, it is a work which ought to be in the hands of every student of medicine, or microscopical investigator. The translator's English is easy and flowing. E. J. Edwardes, M.D.

Article 5189.

An Introduction to Practical Bacteriology. By Edgar M. Crookshank, M.B.Lond., Demonstrator of Physiology in King's College. London: Lewis. 1886.

This work fills a gap that wanted filling badly, and it will now no longer be necessary to have recourse to scattered German publications for the information given in this attractive-looking volume. Its contents are entirely practical, the object being to initiate the reader step by step into the mysteries of 'pure' cultivations of micro-organisms, pathogenic and otherwise. Armed with this work any one possessing the requisite apparatus, and a fair knowledge of the use of the microscope, may make bacterial cultivations in different ways for himself.

The book is divided into two parts. The first is devoted to general methods and descriptions of the various instruments and apparatus, while the second part is taken up by a systematic and descriptive classification of the various micro-organisms at present known.

In the first part, after an introduction in which Dr. Koch's four rules are given for establishing any particular micro-organism as the *causa causans* of a disease, the author begins with a list of reagents and necessaries, with formulæ. The hardening and decalcifying solutions are few but select, only absolute alcohol, Ebner's, Kleinenberg's and Müller's fluids, and osmic acid being given; but the list of staining fluids is very full. Next we have a description of sterilisers, and the various other apparatus of a biological laboratory, including several very ingenious heat-regulators, all profusely illustrated by excellent wood-engravings. Next come methods of examining cultivations microscopically, with some of the best staining methods, followed by plate-, potato-, and test-tube-cultivations, every step being most lucidly described. The sixth chapter—Experiments on Animals—is almost superfluous in England for the present. Abundant wood-engravings are inserted, and we even have an engraving of the proper way of holding a potato in dividing it; though it is open to question whether the average intellect would not grasp the idea that the cut surface must not be touched by the fingers, from the text alone.

The second part begins with a brief historical sketch of various classifications of micro-organisms, Zopf's arrangement being the one adopted here, as being based upon 'pleomorphism.' 'Zopf, however, does not assert that all the fission-fungi exhibit this pleomorphism, nor does he pretend that his classification will include all the micro-organisms described. Cohn, on the other hand, was ready to admit that not all the forms described by him were truly independent species. These facts indicate that a need exists for a thorough investigation of the whole subject, and any classification at present can only be considered a provisional arrangement.'

The various bacteria are here regarded from the microscopist's point of view; and accordingly, we read of *bacillus malariæ*, *bacillus diphtheriæ*, *bacillus pneumoniæ crouposæ*, &c., merely because certain organisms have been found in connection with certain diseases, while the question of the etiology of the latter is still *sub judice*. Some kind of periphrasis ought to be adopted in speaking of bacteria associated with certain diseases, but not yet proved to be the *causa causans* in each case. Meanwhile, Dr. Crookshank has been careful to point out the existing differences of opinion as regards *spirillum choleræ Asiaticæ*.

A short account of yeasts and moulds occurs at the end of the work, together with methods of examining for bacteria in air, earth, and water.

The book has been published evidently regardless of expense, and the type is larger than usual, which makes it pleasant to read. Thirty coloured plates are inserted; the drawings are very well done, but the colouring is, as usual, too vivid in some cases. *Est modus in rebus*. When will our lithographers learn to subdue their colours a little? A very useful index completes the work, which doubtless will command an extensive sale.

E. J. EDWARDES, M.D.

ARTICLE 5190.

Report of the Committee on Disinfectants of the American Public Health Association. 1885. Baltimore.

HAVING defined antiseptics and disinfectants, and distinguished between their action upon micro-organisms and spores, the Report proceeds to describe the scientific methods adoped by its authors, viz., culture and inoculation. Tables of commercial disinfectants in ordinary use are arranged in the order of their efficacy. A series of exact experiments upon the disinfecting power of various chemical agents follows.

Potassium permanganate was found to possess decided germicide power by Dr. G. M. Sternberg, when applied in sufficient quantity; but the objection to it is that it is readily decomposed by organic matter; therefore, if much of the latter be present, large quantities of permanganate will be required for disinfection.

Peroxide of hydrogen did not yield encouraging results in the hands of the American committee. They found it to fail as a germicide in the proportion of 1 : 10,000, whilst Miquel states that it is active in the proportion of 1 : 20,000.

As regards the action of *chlorine* as a disinfectant, the researches of Fischer and Proskauer (Mittheilungen aus dem Kaiserlichen Gesundheitsamte) are favourably quoted. All observers seem to agree that this powerful germicide and antiseptic is far more active in the presence of moisture than when dry. In this respect biological and chemical observations are in perfect accord, for it has long been known that the bleaching action of chlorine, and its chemical action upon many metals, are greatly facilitated by the presence of moisture. The practical objections to the use of chlorine are of course its irritant action upon the human respiratory organs, and its tendency to destroy or discolour clothing, &c.

Bromine, whilst it is even more objectionable to handle than chlorine, was found upon the whole less prompt as a disinfectant.

Iodine in solution was found by the committee to be somewhat superior to bromine as a disinfectant; 1 part of iodine in 500 being efficient as a germicide after two hours' exposure, whilst a solution of bromine containing 1 part of 500 required upwards of three hours' exposure. Chlorine was efficient in the proportion of 1 part in 100, when the exposure lasted for one hour.

A number of observers are quoted in connection with the disinfectant action of *carbolic acid*, but its antiseptic action is not discussed. The quantity of the acid required for disinfection is large, viz.: 1 per cent. solution for septic and purulent matters; tubercle-bacillus; micrococci of fowl-cholera; the time required is in some cases many hours; 2 per cent. solution for infection of vaccine and glanders; 5 per cent. solution for twenty-four hours required to destroy the spores of anthrax. Douglas and Baxter (experiments with vaccine) are quoted as having proved that aerial disinfection by carbolic acid vapour is practically impossible. The experiments of Perrin and Marty demonstrated its inutility in the form of spray against bacterial life.

Mercuric chloride in proportion of 1 : 10,000 destroys micrococci and bacilli in active growths, not containing spores; 1 : 1,000 destroys the spores of bacilli, provided the time of exposure be sufficiently prolonged.

A considerable proportion of the report is occupied by an account of some very interesting experiments upon sulphur chloride, and the effects of fumigation with burning sulphur. There is one statement in connection with this subject on p. 104, which appears questionable. 'According to Richter sulphurous acid in aqueous solution gradually undergoes the following reaction:

$$3SO_2 + 2H_2O = 2H_2SO_4 + S.'$$

If this were so, the aqueous solution of sulphur dioxide would gradually deposit sulphur on keeping, but it always remains clear, the change which occurs being generally thus expressed:

$$SO_2 + H_2O + O = H_2SO_4,$$

the oxygen being dissolved by the water from the surrounding atmosphere.

Exposure for twelve hours to an atmosphere containing at least 4 volumes per cent. of sulphur dioxide, is recommended for disinfection by this gas.

A number of useful practical hints for disinfection with various agents are found at the close of the Report.

G. STILLINGFLEET JOHNSON.

ARTICLE 5191.

The Refraction of the Eye. A Manual for Students. By GUSTAVUS HARTRIDGE, F.R.C.S., Consulting Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham; Assistant-Surgeon to the Royal Westminster Ophthalmic Hospital. Second Edition. London: J. & A. Churchill. 1886.

IN writing a book of this kind for students, an author's great difficulty is to decide from what point to start, and where to end. If he omit all consideration of elementary optics, he becomes unintelligible to some; while, if he go at all fully into this part of his subject, his book attains an unmanageable bulk. On the other hand it is difficult to decide whether he shall content himself with imparting knowledge which shall be sufficient for practice, or if the phenomena described shall be explained fully. We feel bound to say that Mr. Hartridge has not quite conquered this difficulty, and that, reading between the lines, one is often conscious that he himself feels this. However, the fact that a new edition has been so soon called for, shows that this manual meets a real want.

As regards what may be called the introductory portion of the book, that which concerns itself with optical principles, we could wish either that the student had been referred to some of the excellent school manuals on the subject, or that this part had been much more complete. We doubt whether the student who had no previous knowledge of optics would obtain sufficient information from this part of the book to render the subsequent parts intelligible. The higher mathematics might safely have been excluded, but the modes of constructing images, both from formulæ and geometrically, should certainly have been described; the nature of cylindrical lenses, and their effect upon rays of light might have been more fully discussed; nor do we find any explanation of such terms as 'nodal points,' 'chromatic and spherical aberration,' though these are all employed.

The chapters which deal with the practical methods of estimating errors of refraction are excellent, that dealing with myopia and the description of the symptoms of hypermetropia being among the best; therefore, if we proceed to point out defects in this portion of the work, it is merely in the hope that the writer may correct them in future editions, and not because we believe that they seriously impair its value.

It is no easy matter to explain clearly in a few words the best mode of discovering and estimating astigmatism; and, when once its presence has been admitted, we can congratulate Mr. Hartridge on the clearness of most of his directions for ascertaining its amount; but we must take exception to the manner in which the student is advised to endeavour to discover its presence. Having found the spherical glass which gives the best vision (but the result being below normal), he is directed to place a weak cylindrical lens in front of the eye, and, rotating it, to see if the vision be thus improved. In a proceeding of this kind the chances of error are so numerous, that we have no hesitation in saying that, with an average student and average patient, only confusion would result; surely here was the best opportunity for using the fan of radiating lines, or the revolving line on Carter's dial. We are, of course, assuming that the writer wishes to confine himself here to subjective tests, or retinoscopy could well be employed at this stage. In treating of an exact science, we think that loose and inaccurate phraseology is especially to be avoided; and we therefore should take exception to the statement on p. 84, that 'the horizontal and vertical edges of the oval diffusion-image in astigmatism may correspond with the horizontal and vertical meridians of the cornea, but have frequently an intermediate position.' A slip of this kind can easily occur in a first edition, but it is unfortunate that it should have escaped correction in a second. We would also expunge such terms as 'at *a* distance from the eye,' 'oval vertically,' &c. The following sentence, too, shows a curious inversion of cause and effect:—'Since concave glasses diminish the size of objects, they will exercise some influence on the size of the retinal image.' Most of the numerous wood-cuts are excellent, but we hope that in future editions fig. 40 will be altered; as now drawn, it does not illustrate the text, for the points *a* and *b* could only be seen at the same time if the pencils of rays from them overlapped; this figure should, in fact, contrast with fig. 39, where the pencils are widely separated. On comparing figs. 29 and 61, it will be seen that, in the latter, accuracy has been sacrificed by the draughtsman to symmetry. The writer is at his best when dealing with facts; when he comes to arguments, his reasoning is not always sound; for instance, the fact that accommodation can still be employed after both internal recti have been divided, is adduced to show the partial independence of the functions of accommodation and convergence; but in this there is an obvious fallacy. It would be as reasonable to argue that the movements of the two eyes in looking upwards are independent of each other, because, when one eye has been enucleated, the other can still be so moved.

It is evident that the writer thoroughly understands his subject, and the book, notwithstanding what appear to us slight blemishes, will be extremely serviceable to many students.

Article 5192.

An Introduction to the Use of the Laryngoscope. By Archibald E. Garrod, M.A., M.B.Oxon. London: Longmans, Green, & Co. 1886.

This little book contains many valuable hints to the beginner in laryngoscopy. Its teaching is in the main that of the Vienna School.

There are seventeen figures, some of them rough but effective. Fig. 4, showing the 'laryngoscopic picture in skew mirror,' serves to impress upon the beginner the necessity of not drawing conclusions from distortion of the image produced by a faulty position of the mirror. The last figure, illustrating the posterior rhinoscopic picture, is less successful than some of the others. In fact, but scant justice is done to the subject of anterior and posterior rhinoscopy, which, if introduced at all, should receive its due share of attention. A synopsis of the appearances in the chief laryngeal diseases concludes the book.

This introduction to the laryngoscope is clearly and concisely written, and cannot fail to be of considerable service to students and practitioners.

E. Cresswell Baber, M.B.

Article 5193.

The Field and Limitation of the Operative Surgery of the Human Brain. By John B. Roberts, A.M., M.D., Surgeon to St. Mary's Hospital, Philadelphia. Pp. 80. P. Blakiston, Son, & Co, Philadelphia. 1885.

The object of this little book is to show reason why surgical operations on the human skull and brain should be planned and executed with greater boldness than is at present believed to be justifiable. The creed of the author may be summed up under the following heads.

I. The combination of symptoms called 'compression of the brain' is due, not so much to displacing pressure exerted on the brain-substance, as it is to some form or degree of intracranial inflammation.

II. The conversion of a closed (simple) fracture of the cranium into an open (compound) fracture by incision of the scalp is, with the improved methods of treating wounds, attended with very little increased risk to life.

III. The removal of portions of the cranium by the trephine or other cutting instruments is, if properly done, attended with but little more risk to life than amputation of a finger through the metacarpal bone.

IV. In the majority of cranial fractures, the inner table is more extensively shattered and splintered than the outer table.

V. Perforation of the cranium is to be adopted as an exploratory measure, almost as often as it is demanded for therapeutic reasons.

VI. Drainage is more essential in wounds of the brain than in wounds of other structures.

VII. Many regions of the central hemispheres of man may be incised and excised with comparative impunity.

VIII. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses, should be treated as are similar lesions of similar structures in other localities.

IX. The results of the study of cerebral localisation are more necessary to the conscientious surgeon than to the neurologist.

On each of these points the author has comments to make. For example, he combats the widely spread notion that the symptoms resulting from depressed fracture, for example, are due to mechanical compression of the brain. On the contrary, he maintains that they are always the result of inflammatory changes in its substance. He considers that this is demonstrated by the fact that large diffused clots may exist on the surface of the hemispheres without danger to life. If these do not cause compression, it is not likely that a small depressed fracture of the skull would do so. This principle, if true, should, he thinks, greatly influence our views regarding the propriety of surgical interference in cerebral complaints.

Again, it is urged that the mere removal of portions of bone from the cranium is not of itself a dangerous operation. Much of the mortality attributable to trephining belongs to the serious brain-lesions for which the operation is performed. Nancrede is quoted, who gives a mortality of only 10·69 per cent. as the risk of the procedure *per se*, and a death-rate of 15·29 per cent. in simple depressed fracture. If this be true, certainly our ideas require revolution. Even under more serious conditions, the statistics are said to be favourable. Amidon, of New York, collected 115 unselected cases of trephining, of which only 29 died, 25 of these at the time of operation having symptoms endangering life. It is, however, to be observed that all these cases seem to have chiefly been injuries to the skull, although this is not specially stated. No evidence is given of in how many the brain itself was injured.

If this comparative safety of trephining be admitted, Dr. Roberts considers that the procedure should frequently be employed as a means of diagnosis as well as of treatment. After injuries, or in various diseases, it is often of the greatest importance to know the extent of the mischief, so as to give indications for further action. When this is uncertain, the author maintains that it is perfectly justifiable to explore the situation by perforation of the skull, and he believes that timidity and procrastination in this direction have destroyed many lives.

Arguments and facts are adduced to show that the brain-substance itself may be handled and incised without necessary danger. There are now numerous cases on record where, even after serious injuries to cerebral matter, the patients have recovered without a bad symptom.

The importance of the study of cerebral localisation is urged as a means of guiding both physician and surgeon in the relief of disease and injury. Dr. Hughes Bennett's recent case, in which Mr. Godlee, at his request, removed a tumour from the brain, is referred to as an instance of the success which may attend a knowledge of cerebral topography.

A chapter of the book is devoted to a discussion of the means by which the location of the cerebral convolutions important to the surgeon may be marked on the shaven head. The methods employed need not be given here in detail. Suggestions are also advanced to assist the surgeon in diagnosis, by utilising our recent physiological knowledge concerning cerebral localisation. Most of the statements referring to the motor areas appear to be warranted by the present state of science. On the question of the general sensory functions, it is to be observed that our author places the centres of these in the ascending parietal convolution, in close contiguity to the motor regions. He goes further, and specially localises the sensory areas of the face, arm, and leg respectively in the lower, middle, and upper thirds of the convolution; and somewhat definite details are given as to how the surgeon may be guided by affections of special areas of sensibility in diagnosing the locality of the hemisphere diseased. We venture to question the accuracy of this description; and, indeed, we are not aware that it has been demonstrated that the ascending parietal convolution has anything whatever to do with the sensory functions. Regarding the localisation of the special senses, we also think the author is somewhat too precise, as, although our knowledge on the subject is more advanced than it is on the position of general sensation, it is still very imperfect and uncertain.

The principles of the operative surgery of the human brain having been thus discussed, the author, in the third and last chapter of his book, proceeds to apply these to the treatment of various conditions. In turn, he describes their utility for the relief of cranial fractures, intracranial hæmorrhage, intracranial suppuration, epilepsy following cranial injury, insanity following cranial injury, and cerebral tumour. Space prevents us from criticising these in detail, it being sufficient to say that many useful practical hints and suggestions are indicated. The work as a whole may be said to constitute a wholesome stimulus to cerebral surgery which, as time and knowledge advance, will doubtless develop in usefulness. While there is room for much improvement, it must not be forgotten that the brain is a vital organ, and that its functions are still in great part unknown, and that boldness and energy in the treatment of its diseases must be tempered with prudence. A. HUGHES BENNETT, M.D.

MR. VICTOR HORSLEY, M.B., Professor-Superintendent of the Brown Institute, will give a lecture on 'Hydrophobia' at the Parkes Museum, 74A Margaret Street, Regent Street, W., on Thursday, Feb. 18, at 8 P.M.

NEW INVENTIONS.

ARTICLE 5194.

DR. SPENCER'S BINAURAL STETHOSCOPE.

THIS stethoscope, which was first introduced about eleven years ago, has now received some modifications and improvements, although it is reduced in price to suit the times. As the illustration shows, two metal tubes, bent in the usual way for adjustment to the ears, and fitted with two ivory ear-pieces, are crossed like the letter X, and are connected together where they cross by means of a tubular joint. By means of this joint the ear-pieces are readily separated and adjusted to the ears. When adjusted, the ear-pieces are retained in position by means of an elastic band stretched across the distal end of the tubes. Two pieces of rubber-tubing, of special manufacture, are fitted to the two metal tubes at one end, and at the other end to a V-shaped metal piece, which carries the collector.

The mode of fitting together the separate pieces, so as to insure uniformity of diameter in the conducting medium, is a special feature, and secures the end aimed at. The collector, of the usual shape but smaller, is made of celluloid. In this form the stethoscope is adapted for all general clinical purposes. To convert it into a binaural differential stethoscope it is only necessary to detach the V-shaped metal piece, and to fix to the two rubber tubes two collectors (also celluloid), supplied with the stethoscope. Suppose, then, that the two collectors are applied to any two separated spots on the chest-wall, the sounds from one spot only are admitted to both ears, if the rubber tube corresponding to the collector on the other spot be compressed between the thumb and forefinger. The sounds from this other spot may be listened to with both ears; if now the tube through which the former sounds were allowed to pass be compressed, and compression be made on the tube which before was allowed to be free. Thus, sounds can be readily and rapidly admitted to, or shut off from, the ears at will by alternate compression of one of the rubber tubes near the chest-end. This obliteration of the tube, and consequent barring of the conduction of vibrations, is very complete; a loud cardiac *bruit* is effectually excluded from the ears, although the collector may be held in position directly over the site of the *bruit* whilst compression is being made on the rubber-tube.

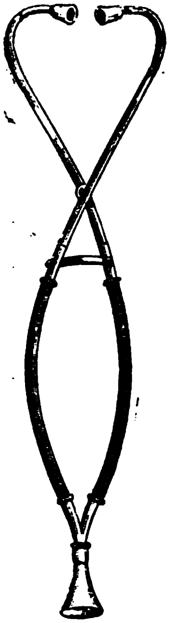


FIG. 1.—With Single Chest Piece.

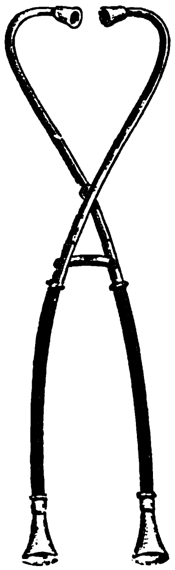


FIG. 2.—With Differential Arrangement complete.

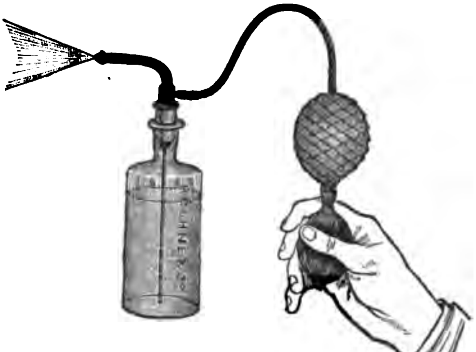
It is truly a scientific instrument, simple and elegant in form, very portable and handy in use, and has already gained considerable popularity. Acoustically, it leaves little or nothing to be desired; vibrations are conducted to the ears without loss of intensity and faithfully, the slighter variations in the character of vibrations are brought out with clearness, and shades of tone, which cannot be appreciated with the usual forms, are brought out by this stethoscope with remarkable clearness and fidelity.

Messrs. Ferris & Co., of Bristol, are the makers of this stethoscope.

ARTICLE 5195.

MESSRS. KROHNE AND SESEMANN'S HALF-CROWN HAND-SPRAY-PRODUCER.

THIS exceedingly economical contrivance consists of an ordinary hand-spray bellows, tube, and nozzle, fixed to a cork stopper, which is fitted into a four-ounce phial. It can be used as a hand-spray in antiseptic operations and dressings in the country, on the field, and under other circumstances where a steam-spray might be difficult to set in action, or actually unattainable. For medicated applications to the fauces, or as a simple refresher, in the sick room, this contrivance will also prove handy. Though cheap, it appears to be strong; indeed, the manufacturers are to be commended for producing it at a low price. There can be no doubt that, with the exception of steel instruments, which, however unadorned, must ever be expensive as long as they are fit to be used for surgical purposes, most medical and therapeutic instruments might with great advantage be constructed of far cheaper materials than is generally considered essential.



Article 5196.

MESSRS. KROHNE AND SESEMANN'S NEW HYPODERMIC SYRINGE.

Messrs. Krohne & Sesemann have contrived a hypodermic syringe, which they sell in a box with two channeled needles complete, for the sum of half-a-crown. The head of the piston is made of vulcanite, as are also the nozzle and the covering of the top of the glass cylinder; the shaft of the piston is of bone, and bears a graduated scale on a thin metallic bar. There is no reason why a cheap syringe should not be efficacious, trustworthy, and durable, so long as it is made of strong materials, as in the present case. The metal of the needles appears to be well tempered, and this instrument is as easy to keep in order as its more expensive prototypes with the glass cylinders mounted in metal.

NEW PREPARATIONS.

Article 5197.

HAZEN MORSE'S 'MALTOPEPSYN.'

We have received from Messrs. Burgoyne, Burbidges, & Co. recent specimens of 'maltopepsyn.' It is said that the pepsin used in its preparation is chemically pure, and that the mixture exceeds in digestive power the best saccharated pepsin in the market. A combination possessing this property should prove valuable. It is worthy of note that it is sold at the rate of 2*s.* 6*d.* for an ounce and a half.

Article 5198.

PEPTOLEINE.

Peptoleine is an emulsion of pure cod-liver oil, rendered tasteless by the addition of aromatics. It is very palatable, and is likely to be taken by patients without difficulty. It is alleged of it that it is highly nutritive, tonic, and digestive. The dose is two tablespoonfuls, three times a day, after meals. It is prepared by Messrs. Burgoyne, Burbidges, & Co.

DIETETIC NOVELTIES.

Article 5199.

WHOLESOME WINES.

We have received from Messrs. Willson & Co., of Hertford, a sample of their *Special Contract 'H' Sherry*, which certainly seems to realise to a great extent the qualities claimed for it. It has a delicate flavour, and is a very mild palatable wine, well adapted for the dinner table of the healthy or the lighter repast of the invalid. We can cordially recommend it.

A Strike among Medical Students.—The medical students of the Brussels University have for some time refused to attend the lectures or continue their studies. Their return to the University does not seem probable at present. The reason they advance to explain their conduct is the dismissal of the clinical professors by the administration of the hospitals, in order to replace them by others of their own choosing. The Brussels University is quite independent of State protection.

MISCELLANY.

The Government Prize of the Académie des Sciences has been given to M. Joannes Chatin for his study of the sensation organs of invertebrate animals. The Cuvier Medallist for this year is Professor Van Beneden, of the Louvain University, for half a century of work in physiology.

We observe that Dr. Piffard has retired from his editorial connection with the *Journal of Cutaneous and Venereal Diseases*. The Journal will be continued under the sole editorial charge of Dr. P. A. Morrow. We may remind our readers that this is the only publication in the English language devoted to Skin and Venereal Diseases, and during the three years of its existence it has won for itself a high reputation for scientific excellence as well as practical utility. In addition to presenting all that is new and valuable in these special departments, the coloured lithographs and wood-engravings with which the original articles are illustrated are worth more than the price of subscription. Judging from the handsome appearance of the January number, which is enriched by an admirable chromo-lithograph and a number of well-executed woodcuts, and the eminently practical character of its contents, this high standard will be maintained in the future.

Nitrous Oxide as an Anæsthetic.—M. Laffont, in a recent communication to the Paris Société de Biologie, stated that nitrous oxide is a most dangerous anæsthetic. He has since further prosecuted his experiments; and, at a subsequent meeting, confirmed his previous statements. He has found proof that nitrous oxide is not an anæsthetic, but an asphyxiating agent, as MM. Jolyet and Blanche have proved. When this agent is used by dentists to produce anæsthesia, hyperglycæmia and glycosuria result. M. Laffont has verified these phenomena by personal experience. He has also ascertained that in animals these results take place before anæsthesia, during the period of deep breathing.

Female Medical Education in Bombay.—A recent *Government Gazette* contains a series of regulations relating to instruction for women at the Grant Medical College. Periodical examinations at the close of each session will be held by the Professors of the College in the subjects belonging to the current session; they will be oral, written, and practical. Students failing to obtain one-half of the marks in each subject will be relegated to their studies for periods varying according to the subject and amount of failure. Those unable to pass after a second trial will be recommended to discontinue their attendance. They who finally satisfy the examiners will receive a certificate of qualification to practise, signed by the Principal of the College, and countersigned by the Director of Public Instruction.

Prizes of the Medico-Psychological Society of Paris.—The Société Médico-Psychologique will award the following prizes in 1886:—The Aubanel Prize of 2,400 francs (96*l.*) Subject: 'De la co-existence, chez une même malade, de delires d'origine différente (alcoolique, epileptique, paralytique, vésanique) au point de vue du diagnostic, du pronostic, du traitement et de la médecine légale.' Belhomme Prize, 1,200 francs (48*l.*) Subject: 'L'idiot, "et de préférence" aux lésions anatomiques des centres nerveux dans l'idiotie.' Esquirol Prize, 200 francs (8*l.*) and Esquirol's works. Subject: A written memoir on a question of mental pathology. Moreau Prize, 200 francs (8*l.*), written or printed. Subject: 'La meilleure thèse inaugurale publiée en 1885 sur une question de pathologie mentale ou nerveuse.' All manuscripts sent in for competition must be forwarded to M. Ritté, physician at Charenton, before Dec. 31, 1885.

Treatment of a Rebellious Corn.—Dr. R. C. Newton, Assistant-Surgeon, U.S.A., writes from Fort Elliott, Texas, concerning a soldier, thirty-three years of age, who was suffering from a large callosity, caused by a splinter which he had run into the sole of his foot two years previously. The callosity resembled an ordinary corn, but was as large round as a quarter of a dollar, and gave but little pain except when the man walked about. The corn was vigorously treated by excision, poulticing, scraping, salicylic acid, cannabis Indica, collodium, &c., but without avail, for each time that it was removed it grew again with most commendable persistency. Antisyphilitic treatment was also tried without success. Finally Dr. Newton had resort to liquor potassæ, as recommended by Erichsen for callosities; and, after making applications twice a day with this substance for a period of four months, he was rewarded by seeing his patient cured and returned to duty.

Spectroscopy.—At the recent meeting of the congress at Grenoble, M. Henocque explained his new method of examining the blood with the spectroscope. The blood in the subungual region of the thumb is carefully examined; then the time necessary for the reduction of oxyhæmoglobin is ascertained; the blood is then placed in white porcelain capsules, when the presence of methæmoglobin can be recognised. The method is clinically useful. A stratum of blood is placed between thin glass slides superposed at an acute angle: this arrangement is called by M. Henocque a hæmatoscope. It shows the necessary quantity of hæmoglobin with reference to the thickness of the strata. M. Henocque has recently invented a chromometric method, in which the hæmatoscope is placed on an enamelled plate, which shows directly the quantity of oxyhæmoglobin contained in the blood examined. M. Henocque showed thin models of hæmatospectroscopes, one very simply constructed for the use of students, and another adapted for carrying out minute and delicate researches. Both instruments were constructed by M. Lutz, optician, of Paris.

Hospital for Women at Delhi.—The Countess of Dufferin opened the St. Stephen's Hospital for Women on Oct 30, 1885. The Rev. Mr. Carlyon, in asking her ladyship to declare the hospital open, entered upon a history of the Medical Mission in Delhi, and paid a high tribute to the work of the late Mrs. Winter, the pioneer zenana worker in India, who started the medical work for women in Delhi in 1860, and, dying, left a request to the mission to build a hospital for women. The foundation-stone was laid in January last by the Duchess of Connaught. The buildings were completed at a cost of 29,000 rupees. Generous contributions had been received, leaving a thousand rupees only unpaid. A high tribute was paid to the noble work initiated by the Countess of Dufferin, in whose honour an ode was specially composed for the occasion, and sung by native Christian girls. The Countess inspected the three floors of the building, ascending the third in a patent lift. There was a special service of song by the Cambridge missionaries and converts, after which her ladyship declared the hospital open.

Vaccination in Assam.—According to the *Indian Medical Gazette*, vaccination appears to be making steady progress in Assam, the total number of operations during last year being 103,731, as compared with 88,693 in the previous year. This, no doubt, was, in a great measure, due to the increase of local board and municipal vaccinators, and of the work done by them, and to an improvement in the extent and efficiency of the inspection. It is a fact worth notice, that the number of operations performed by medical officers of tea-gardens shows a considerable decrease, being only 8,449, or 1,887 fewer than in the previous year. But these figures are not wholly reliable, as the report says that 'great difficulties have been experienced in obtaining reports from the garden managers, and the returns are admitted to be imperfect.' One of the most satisfactory features is the increase in operations amongst the people of the Khasi, Garo, and Naga Hills, especially the latter, where there were 1,228 operations, as compared with 473. The persons vaccinated were chiefly Mikirs, but there were also some Lohta Nagas and Angamis. The increase amongst the people of the Khasi Hills was due to a serious outbreak of small-pox caused by inoculation; for this opened the eyes of the people to the dangers of inoculation, and disposed them to accept the preventive of vaccination.

The Barometer as a Guide to Health.—Dr. M.A. Veeder, of Lyons, New York, has been led by his observations to believe that the barometer may become an instrument of as great value in saving life as it is now in saving crops or ships. It is a familiar fact, he says, that many persons who are afflicted with rheumatism are able to foretell changes of the weather by means of the aches and pains that they experience. Persons who are subject to headache, also, are apt to suffer most when the mercury in the barometer is changing its level rapidly, as, for instance, before a thunderstorm. The cause of these symptoms appears to be a difficulty in the adjustment of the volume and rate of the circulation of the blood to the varying atmospheric pressure upon the surface of the body. Ordinarily the results are not serious, and but little attention is given to the subject. The question arises, however, as to whether there may not be a class of cases in which the movements of the mercury in the tube may become of great prognostic import. Dr. Veeder says that he has noted the occurrence of several deaths from apoplexy, at times when rapid fluctuations of atmospheric pressure were indicated by the barometer; and he believes that at such times over-excitement, over-eating, improper clothing, and the like, may induce consequences most disastrous to those who are predisposed to apoplexy, the weakened blood-vessels being already subjected to unusual strain by reason of the unfavourable atmospheric conditions. Although the cases observed by the writer thus far are not numerous, yet he maintains that the probabilities with regard to the matter are such, that it is the part of wisdom that those who are advanced in years, or subject to symptoms that indicate an apoplectic tendency, should be warned to exercise great moderation in all things, whenever the mercury is seen to be unusually active in its movements.

Archives Slaves de Biologie. — M. Maurice Mendelssohn and M. Charles Richet have founded a journal entitled *Archives Slaves de Biologie*. It will appear every two months, and will contain original articles from scientific Sclavonic authors whose works are intelligible to their fellow countrymen only unless interpreted in another language. MM. Mendelssohn and Richet have had the happy idea of reproducing the valuable memoirs of eminent Sclavonic professors and scientists in a form accessible to all nations. French is so generally spoken and understood throughout the civilised world, that the *Archives Slaves de Biologie* may be considered to be of universal utility. The present number contains the following articles:—*Crâne Humain à Podbada*, by Ant. Fritsch; *Crâne Humain à Strebichovic*, by Ant. Fritsch; *Circulation de la Sève*, by Godlevsky; *Développement des Eponges Fossiles*, by Pocta; *Développement des Gemmules des Eponges*, by Wierzejski; *Cultures Capillaires*, by Danilevski; *Articulations Composées*, by Lesshaft; *Terminaisons Nerveuses dans les Glandes*, by Navalichin; *Parasites du Sang*, by Danilevsky; *Dilatation de la Pupille*, by Rovalevsky; *Excrétion de l'Indigo*, by Marés; *Genèse et Mort des Fibres Musculaires*, by Navalichin; *Anémie Pernicieuse*, by Botkin; *Alimentation des Phthisiques*, by Kurloff; *Morphologie des Bacilles Tuberculeux*, by Obrzut. The programme also includes reviews and reports of interesting works and papers read at Russian, Polish, &c., important scientific societies. The next number will appear on March 15, and will contain M. Anrep's papers on *Ptomaines of Fish*; *Parasites du Sang*, by Danilevski; Levascheff *On the Vaso-Motors*; Mierzejewski, *Sur les Hallucinations des Alcooliques*; Nussbaum, *Sur les Hirudinées*; Schimkievitch, *Sur la Morphologie des Araignées*; Vedenski, *Sur la Contraction Volontaire*; Zaborovski, *Sur les Crânes Finnois.*

SHANKLIN, ISLE OF WIGHT:

A HEALTH RESORT

AND

WINTER RESIDENCE.

Shanklin is situate in a deep Bay on the South-east of the Isle of Wight, and is eminently suitable as a Health Resort for Invalids suffering from effects of hot climates, or from depression and loss of tone consequent on over strain of mental or physical powers.

The Climate is mild, pure, and salubrious. Owing to the considerable elevation at which Shanklin stands above the sea-level (from 100 to 250 feet) the air is bracing, and there is not that humidity which is experienced in places further West.

The Scenery is beautiful. The Country, though hilly, is quite easy and practicable for walking exercise by invalids.

The Soil of the district is chiefly of the green sand formation; and, owing to its porosity and the undulated surface, the roads and walks are available for pedestrians soon after rain. Shanklin is under the supervision of a Local Board of Health, and is thoroughly sewered. It has a considerable natural fall towards the Sea, into which the Sewage is discharged beyond low-water mark at some distance from the Town. The Sewers are ventilated by the usual Street Ventilators and by Shafts.

The Water Supply is obtained from the neighbouring hills, which rise to a height of nearly 800 feet above sea-level. The Water has been analysed by the Sanitary Authority, and is pronounced to be of excellent quality.

On the East Cliff, the most exposed part of Shanklin, shrubs and plants of tender natures thrive luxuriantly, although left out in the open, and unprotected through the winter months: Myrtles, Fuchsias, Veronicas, Euonymas, Sweetbays, Laurestinas, Lemon Plants, Geraniums, and many others of delicate habit, flourish there and attain great size. This affords proof that the easterly winds are so tempered by their passage over the sea that they are deprived of their virulence. All through the winter months the gardens present abundant evidence of the mildness of the climate at Shanklin, and testify to its fitness as a place for the winter residence of persons of delicate health.

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The London
Medical Record

A MONTHLY REVIEW OF THE

Progress of the Medical Sciences and of Subjects relating to Public Health

EDITED BY ERNEST HART

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Article 5200.

PASTEUR ON HYDROPHOBIA.

At a recent meeting of the Paris Academy of Sciences, M. Pasteur read a second note on his treatment for hydrophobia. He said he was excessively surprised to find the number of people bitten by mad dogs to be so great. On February 28, with the aid of Dr. Grancher, he inoculated the 350th patient; of these, one is dead, Louise Pelletier, aged 10. When she was brought to M. Pasteur's laboratory he had little hope of saving her life, and stated, in his note to the Academy of Sciences, that, in the interest of science, he ought to have refused treating her, but preferred to gratify the natural desire of her relations. She was placed under M. Pasteur's care six days after the bite had been inflicted. There was an extensive purulent sore on her head, which had not been modified by medical treatment. On November 27, eleven days after the treatment was applied, symptoms of hydrophobia manifested themselves, and the child died on December 3. A serious question had to be decided, whether she died from the treatment or from the bite. Twenty-four hours after death, the cranium was trephined in the region of the wound, and a small quantity of cerebral substance was removed. Two rabbits were inoculated with it, and died simultaneously from hydrophobia eighteen days subsequently. After the death of these rabbits, others were inoculated from their spinal cords, and died fifteen days later. These series of inoculations show that Louise Pelletier died from the bite and not from the inoculations, otherwise the second series of rabbits would have died after seven days' incubation instead of fifteen. The rest of the patients are in a satisfactory condition, and the inoculations have never produced any serious local disturbance, neither phlegmonous swellings nor abscesses. After the last inoculations, there is sometimes a little redness and œdema. M. Pasteur states that statistics show that it is generally during the first two months after the bite has been inflicted, that hydrophobia declares itself. The patients under treatment are classified as follows. One hundred were bitten before December 15, now ten weeks ago; one hundred vary from six weeks to ten; one hundred and fifty are under treatment, and are in excellent health. M. Pasteur urges that an inoculation establishment for hydrophobia should be organised.

M. Vulpian commented on the necessity of relieving M. Pasteur from the care of finding shelter for his patients; he also considered it to be of the highest importance that the treatment for hydrophobia should be for some further time applied at Paris under the superintendence of M. Pasteur. M. Pasteur estimated that the expenses of an inoculation establishment would be 50,000 francs (£2,000). Patients arrive from all parts of the world. Four Americans who have been treated, and apparently cured, reached M. Pasteur's laboratory twenty-one days after the bite had been inflicted; nevertheless, it is an error to suppose that prolonged delay is not dangerous. The process of incubation goes on from forty to sixty days. Treatment at that period would coincide with the outset of the symptoms. M. Pasteur does not consider that the French Government ought to be asked to subsidise the establishment, but that it should be supported by public and international donations.

M. Freycinet said that he believed that he might promise the support of the Government. The Government authorities would consider it a privilege to be associated with M. Pasteur in his enterprise.

M. Leblanc, member of the Academy of Medicine and sanitary director of the Prefecture de Police, has furnished M. Pasteur with the following statistics. In 1878, out of 163 persons bitten there were 24 deaths from hydrophobia; in 1879, 76 were bitten, 12 died; in 1880, 68 were bitten, 5 died; in 1881, 156 were bitten, 23 died; in 1882, 67 were bitten, 11 died; in 1883, 45 were bitten, 6 died. According to these statistics, the average mortality was one death in every six cases.

M. Pasteur desires that the inoculation establishment for hydrophobia should be a centre for studying virulent and contagious diseases; what he has discovered in relation to hydrophobia must also have some bearing on other diseases. It is now a question, whether diphtheria may not be successfully treated on principles based on those already formulated by M. Pasteur. W. Vignal.

Article 5201.

WOOD ON ANTISEPTICS IN SURGERY.

In the *Brit. Med. Jour.*, December 1885, pp. 1095 and 1147, is published the Bradshaw Lecture given by Professor John Wood. The author confines his remarks chiefly to the external application of antiseptics, and excludes all theories. The agencies which more or less accelerate or retard the healing of wounds are: 1. the reserve fund of recuperative vitality, which lies in what is termed the *vis medicatrix naturæ*; 2. a healthy atmosphere surrounding the patient, both before and during the period of healing; 3. absolute cleanliness in the patient, dressers, nurses, &c., with clean linen, towels, water, &c.

In default of pure air, careful hygiene, and absolute cleanliness, it is possible to assist nature in resisting suppuration, putrefaction, &c., by the use of antiseptics—*i.e.* by the local use of applications calculated to prevent suppuration and putrefaction, and to promote quick healing. The question to be solved is, what is the best, most powerful, least irritating, and most convenient and economical antiseptic for general use? Chloride of zinc, in the form of Burnett's fluid, in combination with a solution of carbolic acid, is a valuable application to sweeten wounds and to keep them sweet. The sulphates of copper and iron possess an effective microbicide power, even in a solution of 1 in 110. Iodine has still a greater antiseptic power (as high as 1 in 400); to stop putrefactive processes when formed, it should be used in the form of one drachm of the tincture to half a pint of water. Condy's fluid, alum, boracic acid, and salicylic acid have not sufficient antiseptic power to make them reliable when sepsis is already present. Salicylic wool is a very convenient dressing; it is portable, it excludes the air, absorbs the discharges, and so prevents the beginning of putrefaction. Tincture of benzoin (Friar's balsam) is a good primary application to slight wounds. In the treatment especially of compound fractures and of large spinal and other abscesses, the carbolic spray introduced by Lister, combined with the use of carbolic gauze, and the judicious use of drainage-tubes, has greatly added to the improvements of antiseptics.

Lister has lately turned his attention towards adapting bichloride of mercury as an antiseptic. In the proportion of 1 in 1,000 it will prevent, and a solution of 1 in 500 is strong enough to destroy, putrefaction. A solution of peroxide of hydrogen is a very convenient non-irritating antiseptic, and is one of the most powerful microbicides known. One part in 2,000 is sufficient to prevent putrefaction beginning, and it is absolutely free from any suspicion of local or constitutional irritation. Its active properties are due to the ozone it contains. The lecture concludes with a fitting reference to John Hunter, who first tied the superficial femoral artery just one hundred years ago.

Richard Neale, M.D.

Article 5202.

SOKOLOFF ON INHALATIONS OF COLD AIR IN ENTERIC FEVER.

In the beginning of his work, Dr. Alexander M. Sokoloff, of the Krasnoselsky Military Hospital, makes an interesting observation (*Voënno-Meditz. Jour.*, February, March, May, June, and July 1885; and the *St. Petersburg Inaugural Dissertation*, 1884, pp. 116) that though typhus patients at this hospital in summer time are kept in tents, where during August and September the temperature by nights sometimes falls as low as +6° C., and even 0° C.; and though under these circumstances the temperature of the patients in many cases falls from the evening height of 40° C. to the normal in the next morning, he has never seen anything like dangerous collapse or other complications. Starting from this observation, the author justly complains that dry cold air as a therapeutic agent has not, as yet, attracted the due attention of medical men, in spite of the recommendations made by Hahn, Rosenthal, Senator, Kaczorowski, Langenbeck, and P. Niemeyer. Meanwhile the statements of the authors named recently found a confirmation in the careful experiments made by Dr. L. R. Traubenberg, in Professor V. A. Manassein's clinic. (*See* the London Medical Record, May 1884, p. 188.) Dr. Traubenberg, however, while admitting the therapeutic value of cold air baths, at the same time has pointed out that they—as an antipyretic—occupy a lower level comparatively with cold-water baths.

Searching for some means of intensifying the antipyretic action of cold air, Dr. Sokoloff resolved upon undertaking a series of experiments on inhalation—that is, on introducing this cooling agent directly into the lungs, into 'one of the regions of maximal heat-formation.' His observations were made in twenty-three cases of enteric fever, five of which were of an abortive type, the remaining eighteen being moderately or very severe (two ended fatally). The patients were made to inhale from a Niemeyer's cold-air inhaler (*see* P. Niemeyer's *Aerztl. Sprechs.*, vol. vi., part 3, p. 129), slightly modified by the author. About 510 inhalations were made in twenty-three cases, the number of sittings in an individual case varying from six to forty-two; the number of sittings daily from one to three; the duration of a sitting from five to thirty minutes; and the temperature of the air from −2° to −10° R. From these observations the author draws the following conclusions.

1. Inhalations of cold air produce a greater or less depression of febrile temperature; but, contrary to the author's expectations, their effect is comparatively weaker and more fleeting than that of cold-water baths, and even of cold-air baths. The antipyretic effect of the inhalations varies according to certain conditions. (*a*) *The time of the day.*—The least decrease of the febrile temperature, varying from 0°·2 to 0°·5 C., is observed when the inhalations are made between noon and 6 P.M. The strongest effect, varying from 0°·5 to 1°·3 C. (after a single sitting), is observed between 7 P.M. and 10 P.M. (*b*) *The stage of the disease.*—The slightest and shortest effects are observed during the two first weeks of enteric fever, when the average daily decrease (after several sittings) falls short of 1° C., and when the effect of an individual sitting does not last longer than one and a half to two hours. During the next weeks of the disease the effects are stronger (often 1° C., after a sitting), and last several hours. *c. The duration of the inhalation* is but of slight importance. A sitting of five to ten minutes' duration gives the same decrease of the febrile temperature as a sitting of twenty minutes' duration. [The author attempts to explain this rather strange circumstance by fatigue of the lungs, in consequence of which the patient makes accelerated and superficial respiratory movements.] At all events, the greatest antipyretic effects are obtained from sittings of twelve to fifteen minutes' duration. *d. The temperature of the air inhaled.*—A temperature of −2° or −3° R. gives almost the same decrease of the febrile temperature as the temperature of −4°, −5°, or −6° R. Relatively stronger effects are obtained from temperatures of −8°, −9°, −10° R. [It would seem natural to expect *à priori* that the antipyretic effect ought to be greater, the lower is the temperature of the air inhaled. It proved, however, otherwise. The relatively small effect of lower temperatures is attributed by the author to a comparatively shorter duration of the sittings, the patients being unable to perform prolonged inhalations on account of unbearable toothache occurring in consequence of intense cooling of the mouth and teeth.] *e. The mental state of the patient.*—Both depression and excitement (often observed in typhus patients) diminish or even entirely suppress the antipyretic effect of the inhalations.

2. The inhalations produce retardation of respiration (in average, four a minute) and pulse (in average, six beats a minute). At the same time, breathing becomes deeper, and the pulse fuller.

3. The inhalations relieve dryness of the mucous membranes and skin.

4. Inhalations of cold air promote resolution of the bronchitis which often complicates enteric fever, and increase the process of ventilation in the lungs.

5. Hence the inhalations lead to an improvement in the patient's general state, sleep, and appetite.

6. Inhalations of cold air act antiphlogistically on the inflamed respiratory tracts, and hence may be employed as a rational therapeutic agent in the treatment of pulmonary inflammation.

7. Systematic inhalations of cold air may prove of

use also in chronic bronchitis, asthma, and emphysema.

[In the *Meditzinskoie Obozrenie*, No. 13, 1884, p. 12, Dr. V. F. Sprimon points to the disadvantage of the use of the cumbrous and heavy Niemeyer's inhaler, and advises a trial, in winter time, of inhalations of cold air conduced from a window through a piece of tubing, the patient inhaling the air by means of a mouthpiece from a Waldenburg's apparatus. In the *Vratch*, No. 14, 1884, p. 242, Professor V. A. Manassein points out that Sokoloff's observations are important as a new illustration of the fact that cool air in itself is harmless to the febrile patient, and that the well-known fears entertained as yet by the public at large, and even by medical men, in regard to 'chilling the patient' are entirely groundless. Like Sprimon, Manassein also finds any special cooling apparatus superfluous. Valuable information is collected in Dr. R. Neale's *Medical Digest*, sect. 257 : 2.—*Rep.*] V. Idelson, M.D.

Article 5203.

HOPADZË ON THE INFLUENCE OF MASSAGE ON THE METAMORPHOSIS AND ASSIMILATION OF NITROGENOUS FOOD-SUBSTANCES.

The fact of massage manifesting a powerful influence on the nutrition of the organism has been well known, in its general outlines, to medical practitioners from the time of Hippocrates. Practitioners of modern times have admitted beyond any doubt that massage increased the tissue-metamorphosis, and thus enlivened all biological acts in the system. This admission, however, remained an outcome of purely theoretical speculations until, in 1880, Drs. Mary Putnam Jacobi and Victoria A. White published in the *Archives of Medicine*, vol. iii. (*see* also an extract in the London Medical Record, December 1880, p. 487) the first direct observations on the influence of massage on the nitrogenous metamorphosis. Two years later, Dr. Zablüdovsky's work (*St. Petersburg Inaugural Dissertation*, 'A Contribution to the Study of Action of Massage on Healthy Men,' 1882; a short report on the work may be found in the London Medical Record, November 1883, p. 467) appeared, and brought another scientific support to the point in question. In harmony with the American observers, the author found an actual increase in the nitrogenous metamorphosis under massage. But neither Putnam Jacobi and White, nor Zablüdovsky, attempted to inquire into assimilation under shampooing. On the other hand, their experiments, as they were, were open to substantial objections on scientific grounds, for all the observers had drawn their conclusions from analysing the urine alone, having omitted any analyses of fæces and food.

In order to supplement and correct the work of his predecessors, Dr. J. Z. Hopadzë has undertaken (*Vratch*, Nos. 43, 44, and 45, 1885) careful experiments on four healthy students, who were admitted for the purpose into Professor V. A. Manassein's clinic. Each observation was divided into three periods of seven days' duration. All the students received an uniform mixed diet, consisting of white bread, milk, beef-tea, veal, and roast beef, with two or three glasses of tea daily. The nitrogen of the food, fæces, and urine was estimated daily, after Kjeldahl-Borodin's method. During the second week, massage of the whole body (except the head and neck) was daily performed, the duration of the sittings varying from 20 to 25 minutes. The manipulations (which were always made by the author himself, who had learned massage in Professor K. K. Reyher's clinic) began with centripetal *effleurage* movements, after which *massage à friction*, *petrissage*, *tapotement*, and again *effleurage* were practised. The results may be given thus. 1. Under the influence of massage, the appetite considerably increased in all four persons, the increase lasting, also, in the after-massage week. [Thus, No. 1 took in 20·32 grammes of nitrogen daily during the first week, 25·52 during the massage week, and 26·1 during the third. The respective figures for No. 2 were 24·95, 29·64, and 25·57.] 2. The nitrogenous metamorphosis invariably increased, the increase lasting, also, during the third week of observation. [Thus, No. 1 eliminated daily in his urine, on an average, 21·54 grammes of nitrogen during the first week, 24·77 during the second, and 24·86 during the third. The respective figures for No. 2 were 22·24, 23·29 and 22·69.] 3. The assimilation of nitrogenous substances of the food in all the cases showed an increase which lasted for the after-massage week. [No. 1 assimilated 90·6 per cent. of nitrogen daily during the first week, 92·8 during the second, and 90·8 during the third.] 4. All four patients gained in weight in the after-massage week. During the massage week one gained 533 grammes, one showed no change, and two somewhat decreased in weight. 5. Massage increased peristalsis. In two of the patients, who had had habitual constipation, the action of the bowels became regular, and remained so during the after-massage week. In another patient, semi-liquid motions followed after two sittings. The author has tried, also, to determine the influence of massage on the length of the period during which the food remains in the stomach. This series of observations (carried on by the author, conjointly with Dr. G. O. Shpolansky, on three other healthy subjects) showed that massage (of ten minutes' duration, applied to the abdomen) shortened the sojourn of food in the stomach by periods varying from 15 to 75 minutes. V. Idelson, M.D.

Article 5204.

KÜRLOFF ON FEEDING AFTER DEBOVE'S METHOD IN PHTHISIS.

In a preliminary note in the *Vratch*, Nos. 36 and 37, 1885, Dr. M. G. Kürloff publishes the results of his researches into the action produced by Debove's 'overfeeding' (*see* the London Medical Record, April 1884, p. 160) on the assimilation and metamorphosis of nitrogenous substances in phthisical patients. The experiments, six in number, were carried on in five patients in the last stage of the disease, in Professor V. A. Manassein's clinic, and in each instance were divided into three periods the first and third of which were each of three days' duration, while the second lasted from three to eleven, on an average six, days. During the first and third periods, the patients received an ordinary hospital diet of oat-porridge at breakfast, soup and meat for dinner, and soup for supper, with the usual daily ration of half-white bread. During the second period, they were fed (by means of a gastric tube with a funnel; in two instances, however, the patients took their food-mixture in the ordinary way) with a thin porridge made of milk and meat-powder (prepared by Dr. J. D. Karëeff from the residues left after pressing out meat-juice). They received daily, in three or four doses, about from 2,100 to 2,800 cubic centimètres of the mixture, which contained about 400 grammes of meat-powder, the quantity corresponding to 1,500 grammes of fresh meat. In addition, they had daily from 1,325 to 5,200, on an average 3,200, cubic centimètres of milk. The average daily amount of nitrogen introduced was about 54·154 grammes [which quantity was equivalent to 1,600 grammes of fresh meat, if we admit with Voit that meat contains about 3·4 per cent. of nitrogen. Karëeft's powder contains about 12·713 per cent. of nitrogen]. The maximal daily amount was 80·687 grammes, which is equivalent to 2,400 grammes of fresh meat. The quantity of nitrogen introduced was daily measured, also, during the first and third periods; and during all the stages, a daily estimation of the nitrogen eliminated with the urine and fæces was performed [after Kjeldahl-Borodin's method, as described in the articles of Kürloff and A. P. Korkunoff in the *Vratch.*, Nos. 5 and 12, 1885].

The outcome of these observations is as follows.

1. Under the influence of such an enormous supply of nitrogen, the metamorphosis of albumen and, consequently, the elimination of nitrogen in the urine, were increased very considerably. Thus, while the daily amount of nitrogen in urine before the experiment had oscillated between 9 and 16 grammes, it rose during the overfeeding to an average level of 34 grammes (with maximum equal to 56·26 grammes).

2. The same may be said in regard to the daily assimilation of nitrogen. While before the overfeeding it had varied from 76·7 to 88 per cent., during the second period it averaged 91·3 per cent. To give a clearer idea of the actual state of the matter, the author adduces the following interesting table.

Average Assimilation of Nitrogen in Per Cent.

Patients	Before	During	After Overfeeding.
S-off	76·7	85·4	75·5
L-tzeff	84·9	92·7	82·6

Average Amount of Nitrogen Assimilated in Grammes per 1 Kilogramme of the Patient's Weight.

S-off	0·32	0·93	0·33
L-tzeff	0·24	0·89	0·29

That is, under enforced feeding, the amount of nitrogen assimilated per 1 kilogramme is more than trebled.

3. An increase in food-supply in conjunction with an increased assimilation brings about a rapid gain in the weight of the body, averaging 420 grammes a day.

4. Overfeeding causes an improvement in the patient's self-feeling and appetite, disappearance of dyspnœa, diminution of cough and expectoration, improved sleep, cessation of night-sweats and usually, also, of diarrhœa, and a depression of febrile temperature.

Having given all his cases in detail, Dr. Kürloff winds up his article with the general conclusion that 'Debove's method of enforced feeding has endowed the practitioner with an excellent sure weapon for the struggle against starvation of phthisical patients, which struggle constitutes the most important problem in every case of the disease,' since 'exhaustion of the system, on the one hand, appears to be a proximate cause of the affection,' and on the other hand 'essentially promotes the preparation of a ground favourable for the growth and proliferation of tubercle-bacilli.' It is not improbable—the author imagines—that Debove's treatment alone will prove an effective means for curing the formidable disease in its initial stages. V. Idelson, M.D.

Article 5205.

TAYLOR ON THE ETIOLOGY OF JAPANESE KAKKE, OR BERI-BERI.

Dr. Wallace Taylor, of Ozaka (*Supp. to the Trans. of the Sei-i-Kwai*), for some time past has been carrying on investigations as to the condition of the blood in patients affected with kakke. During these investigations, he became aware of the presence of a spore in the blood of such patients, and in 1884 he began a series of experiments to determine the relation that this micro-organism bore to kakke. Dr. Sternberg's culture-flasks and a culture-fluid made of meat-infusion (beef), gelatine, and crystallised pepsin), were used in these experiments, but occasionally a simple beef-infusion was employed. After preparing a sterilised culture-fluid in these flasks, it was inoculated with the blood of kakke patients. From these pure cultures were produced by inoculating from flask to flask, for from eight to twelve removes. Then from these pure cultures animals were inoculated; and after a time, varying from five to twelve days, symptoms of kakke were developed. With these cultures, six series of experiments were made: one hare, two rabbits, one monkey, and two dogs were inoculated. The experiments with the dogs were negative. But each of the others developed kakke, and in each series three animals were used. One was inoculated with the pure culture obtained from the blood of the kakke patient; the second was inoculated directly with the blood of the first; and the third with a pure culture developed from the blood of the first animal. Spores were found in the blood of these animals, and the cultures obtained from them developed in the same way as those taken from the blood of kakke patients.

Most of the animals experimented with died, and *post mortem* examinations were made on two of the monkeys. Spores were found wherever there was blood, and mycelium in some of the tissues. This micro-organism was found most abundant within the sheath of the nerves, in the ganglia, blood, and kidneys.

This micro-organism was also found in the urine of kakke patients, in canal water (used for drinking), in rice, and in the soil. From each of these sources pure cultures were developed and inoculations made, with the development of kakke in the animals inoculated. Experiments were made showing that the spores of this organism are not killed in the process of cooking rice, nor destroyed during the process of digestion. Hence one of the most probable sources of infection is the eating of rice infected with this organism, and especially the eating of cold rice, a prevalent custom among the Japanese. Such being the source of infection, the adoption of proper sanitary measures will to a great extent prevent this disease.

From the peculiar screw-like movements of this micro-organism, it has been named beri-beri spirillum.

ROBERT SAUNDBY, M.D.

ARTICLE 5206.

FÜRST ON RESECTION OF THE HYPERTROPHIED VAGINAL PORTION OF THE CERVIX UTERI, WITH ARTIFICIAL EXCLUSION OF BLOOD.

DR. L. FÜRST, of Leipzic, begins by paying a tribute to the 'wedge-shaped excision' recommended by Schroeder in his *Handbuch der Weibl. Geschl. Organ.*, in the first instance for stenosis of the os uteri, and, further, for hypertrophy of the vaginal portion of the cervix. His own experience has taught him that this method makes it possible to restore the vaginal portion to its normal size. He then offers some remarks and proposals, including a slight innovation on this method (*Deutsche Med. Wochensch.*, Dec. 3, 1885).

1. In hypertrophy of the cervix uteri, he strongly recommends A. Martin's advice to begin with abrasion of the mucous membrane, preparatory to resection of the vaginal portion—*i.e.* scarification in hyperæmic swelling, and, in hypertrophy of the mucous membrane, scraping of the cervical canal, or at any rate disinfection of the uterine cavity for several days. The operation-wound will heal the more readily if the region be freed from any abnormal supply of blood, and if the mucous membrane on showing any tendency to bleeding be rendered innocuous. For virulent secretions on the mucous membrane, especially if they be gonorrhœal, may—in spite of the application of iodoform after the operation—materially hinder union and endanger especially the plastic result. Bleeding granulations are often the consequence, which delay the covering with epithelium and normal cicatrisation.

2. *The Incision.*—Schroeder recommends that this be made higher or lower, 'according to circumstances'; and Martin 'would remove the diseased parts as far as possible of the mucous membrane as well.' While Hegar's conical incision is particularly adapted to cases of hypertrophy of the portio vaginalis, with a normal state of the mucous membrane, it will be found that Schroeder's wedge-shaped incision is adapted to simultaneous pathological conditions of the cervical mucous membrane. In the latter case, it is no doubt in harmony with the intentions of the inventor that all diseased parts of the mucous membrane, especially erosions, be removed, as far as this is allowed by the subsequently necessary adaptations of the surfaces. The height, direction, and shape of the incision must be determined by the peculiarities of each case, especially with a view to the intended plastic result.

3. *Artificial Exclusion of Blood.*—Martin has recently discarded his former recommendation of constriction with an India-rubber tube as unnecessary, maintaining that the bleeding does not cause any inconvenience in an operation which he can perform in ten minutes. But where there is a redundancy of blood, as in the combination of hypertrophy of the portio vaginalis with diseased uterus, it is, if not necessary, yet very convenient, and conducive to exactness and the smooth progress of the operation, to keep the field of operation free from blood. And particularly in plastic operations, whether the operator be experienced or not, it is of importance, for good union, to be able to operate without disturbance from the trickling of blood. The tube, however, easily slips during the operation, because of the conical shape, and on account of the portio vaginalis suddenly collapsing from want of blood, and has therefore been knotted and fixed on one or two long needles, thrust through the part. This plan Dr. Fürst cannot recommend, as the needles sometimes either break or bend, and their sharp points easily injure the side walls of the vulva and vagina, as well as the operator's fingers. But to remedy these defects he has adopted the use of two capped needles, which he has termed ligature-fixing needles. The needle is round, made of steel, with three sharp edges converging to the point, so as to be able easily and safely to penetrate solid tissue without bending. The handle being flat, with the edges rounded off, is easily and safely held, and towards the middle it is slightly concave, to prevent the tube from slipping off. The cap can be screwed on tight. Two such needles are best, crossed diagonally from behind forwards, thrust as high as possible through the portio vaginalis, thus giving a safe hold to the tube laid over it. They never break, nor do they tear the tissue or other parts, or the operator's hands. By them the uterus can be held fast, and drawn down. After the stitch has been made, the caps are screwed off, the needles carefully withdrawn, and the elastic ligatures removed. The punctures heal at once if the needles have been perfectly clean. If the latter be at once disinfected, they may be used again and again. Dr. Fürst cleanses the needles and caps directly after the operation, first by washing them, taking care to remove any blood that may be in the cavities of the caps. Then, all parts having been brushed over with ether, they are put in boiling water, and afterwards kept in carbolised oil (5 per cent.).

4. *Thread to be used in Stitching.*—Dr. Fürst recommends a thread made of four strands of catgut, silk being too liable to be torn by the speculum. Ordinary catgut is absorbed too quickly.

JOHN ELLIOTT.

ARTICLE 5207.

HOFMOKL ON A CASE OF PLEURAL SARCOMA IN A CHILD.

PROFESSOR HOFMOKL, of Vienna, gives, in the *Archiv für Kinderheilk.*, Band vii., Heft 2, the notes of the case of a boy aged 7, who had previously always enjoyed good health. His father died of tuberculosis; the mother was healthy, but cyphotic. There was no history of any neoplasm on either side. Between December 1883 and May 1884, the child had several transient feverish attacks. The medical man called in, in the latter month, diagnosed right pleuritic effusion. The patient was sent into the country, but without benefit, and returned in September very wasted, with short breath and irritating cough. He was occasionally feverish. Professor Monti was called in consultation, and diagnosed right empyema. The author, who was invited to perform the necessary operation, first saw the patient on Oct. 10, 1884. He was very wasted and orthopnœic. The right side of the thorax was distended and barrel-shaped; its interspaces were stretched but not bulging; there was scarcely any movement with respiration; the superficial veins of the affected side were much distended. Near the right nipple there was a hemispherical bulging of the ribs. The left half of the thorax moved freely with respiration; its interspaces presented nothing abnormal. The heart's apex was pushed outwards to the left axillary line. Percussion on the right side behind was clear above the spine of the scapula, completely dull below it. In front, the apex alone was clear. A marked resistance was also felt on percussion in the dull regions. The left lung appeared to be compressed, but was otherwise normal. Upon auscultation, the right apex, both in front and behind yielded sharp vesicular breathing, which, as the spine of the scapula was approached, changed to bronchial breathing; but at that point it ceased with remarkable suddenness. On the left side, vesicular breathing was everywhere audible. The heart presented nothing abnormal except its change of position. The abdomen was much distended. There was no albuminuria.

On Oct. 12 the patient was slightly narcotised, and an exploratory puncture was made with Pravaz's syringe in three different places; but only a few drops of sanguineous fluid were obtained. Consequently it was concluded that it was a case of tumour, probably pleural sarcoma. The child lingered for another month, and then died with symptoms of great disturbance of the circulation and dyspnœa. The necropsy was made by Dr. Weichselbaum. On opening the abdominal cavity, the right half of the diaphragm was seen greatly projecting with an uneven surface. The right half of the thorax was occupied by a solid mass of the size of a man's head. The surface of the tumour presented numerous flattish prominences of various sizes, and was everywhere covered with a thin vascular membrane — the pleura — which was almost inseparable from the growth. There were a few adhesions to the ribs, but there was no invasion of their structure. The right lung was pushed upwards and backwards; and, while the upper lobe still contained a little air, the middle and lower lobes were completely compressed. The tumour which had completely grown to the lung, was rather soft; and showed on section three different parts; one resembling the grey substance of the brain, another reddish-grey and very vascular, and the third dry and yellowish, like cheese. The bronchial and mediastinal glands were completely intact. The left lung was normal. The heart was hypertrophied; the right ventricle somewhat dilated; the valves natural; the abdominal organs were normal. Upon microscopic examination, the grey portion showed a typical alveolar structure, the stroma being fibrillary and vascular, and the spaces crowded with fusiform and stellate cells, each with a large oval nucleus. Upon well shaking a section, a fine continuation of the stroma was traceable between the cells. The yellowish portion of the tumour showed cheesy metamorphosis. The diagnosis was, therefore, elaborated into 'a large-celled alveolar sarcoma, the cells of which probably originated from the endothelium of the pleura or of its lymphatic vessels.'

The author, in conclusion, compares this case with one previously described by him in vol. v. of the same publication, and draws special attention to the existence in both of the hemispherical swelling already alluded to. He attributes the position of this to the yielding nature of the costal cartilages. The diagnosis of future cases will be facilitated by the consideration of the great resistance felt by the finger on percussion; the stretched but not bulging interspaces; the passive dilatation of the superficial veins of the affected side; and the sharp line of demarcation between the completely and the partially compressed lung-tissue, as shown by the breathing sound. But the only certain sign is that elicited by the exploring needle, which, however, must be tolerably large, and must be inserted in not less than three places, and to a fair depth. The microscopic examination of the exuding fluid may sometimes give valuable information.

Ralph W. Leftwich, M.D.

Article 5208.

POSNER ON PHYSIOLOGICAL ALBUMINURIA.

Dr. Carl Posner recently read a paper (*Berliner Klin. Wochensch.*, 1885, No. 41) on the above before the Berlin Medical Society. His researches have led him to affirm that all urine holds traces of albumen or albuminoids, whether the urine be derived from healthy or from unhealthy people. The extreme dilution and impurity of the urine have been the only reason why the albumen is seldom shown by ordinary tests. The question thus becomes a purely chemical question. Observations on the occasional appearance of albumen in the urine of persons in apparent health have hitherto been met by the assumption of a latent nephritis, or of individual peculiarities, or at least of particular physiological conditions, such as muscular work, digestion, &c. But if albumen can be shown to be present in any urine whatever, then the expression 'physiological albuminuria' will be a strictly correct one, and will replace the expression 'albuminuria in apparent health.' Two things have to be done to show the presence of albumen—viz., to concentrate the urine, and to remove other constituents of it. Dr. Posner was able to show the presence of albumen in another way—viz., by protecting it from precipitation during evaporation of the urine by heat, by adding excess of acetic acid, and thus converting it into acid-albumen. The evaporation had sometimes to be carried very far; but, on filtering and testing successive portions, the reactions of albumen were always obtained. The test chiefly used was ferrocyanide of potassium, as being extremely delicate and perfectly reliable.

The second method is to precipitate the albumen by a strong and safe precipitant. Both absolute alcohol, and a concentrated watery solution of tannin, cause considerable precipitation in ordinary urine. This precipitate is collected, washed, and the albumen dissolved out by acetic acid; the solution shows the presence of albumen, usually at once, but always after evaporation. Ferrocyanide of potassium was found to be the most delicate test, but all the usual tests answered; *e.g.* nitric acid, metaphosphoric acid, picric acid, tannin, or alcohol. Millon's reagent is not applicable, owing to the acetic acid; Adamkiewicz's test (acetate of iron and sulphuric acid) answers well; also, if formic acid have been used in place of acetic, Axenfeld's test (a rose coloration with chloride of gold).

The substances obtained by Leube and also by Hofmeister from such an alcoholic precipitate were not identical with the above. Hofmeister calls his a kind of mucin; it was soluble in water, and was precipitated by acetic acid. On the other hand, Posner's above-mentioned substance was dissolved by acetic acid, and was precipitated by potassium ferrocyanide, which does not precipitate mucin. Hofmeister himself says there was a second proteid in the alcohol precipitate, insoluble in water, and which he did not further investigate (see *Zeitschrift für Physiol. Chemie*, Band iv.). This was doubtless the albumen in question.

Dr. Carl Posner gives a third method of obtaining evidence of the existence of albumen in normal urine—viz., by simply evaporating the urine down by heat, filtering, and examining the residue on the filtering paper—a method which throws some light on the nature of the albumen present. The residue is treated with acetic acid, and the usual tests are then applied. The reactions are weaker by this method, and are not constant; but this is because, probably, an albumen-coagulum by heat is not easily soluble in acetic acid. After some time, and especially after the addition of nitric acid, this solubility is altogether lost.

A substance which is thus coagulated by heat, and which is precipitated by ferrocyanide of potassium in an acetic acid solution, may with all probability be regarded as a serum-albumen, and the other tests support this.

The number of investigations was seventy, made mostly in Professor Riegel's Clinical Institute in Giessen; the rest in Weyl's Laboratory.

Dr. Posner thinks that the presence of traces of albumen in normal urine, a normal latent albuminuria, is best explained by Senator's theory, by which the urine is regarded as *partly a transudation and partly a secretion*. The sources of the albumen, and the conditions under which it occasionally increases abundantly, remain to be investigated.

In the discussion which followed, Professor Senator drew attention to the difference between the terms 'physiological' and 'normal.' A flow of tears was physiological, but was certainly not normal. Dr. Posner's delicate methods had established the truth of his (Senator's) theory of four years ago, that urine was partly a mere transudation.

Dr. Kalischer has also found albumen in the urine after a Turkish bath, during which much loss of weight (2 lbs.) by sweating had occurred, so that the urine became naturally somewhat concentrated.

E. J. EDWARDES, M.D.

ARTICLE 5209.

PAVLINOFF ON THE PHYSIOLOGICAL ACTION OF ANTIPYRIN AND KAIRIN.

IN the *Meditzinskoie Obozrenie*, Fasc. xii., 1885, p. 1203, Dr. S. J. Pavlinoff, of Moscow, describes the results of his experiments which have been carried out, under Professor L. Z. Morokhovetz's guidance, in order to compare chemical and physiological properties of antipyrin with those of kairin.

Chemical Properties.—[The preparation of antipyrin was obtained from Ferrein, and represented an amorphous yellowish powder of pretty strong bitter taste, with aromatic flavour. It was soluble in water and ether; the solutions were neutral.] Kairin belongs to light oxydisable substances; its solutions, kept in contact with the air, within twelve hours become of a ruby colour, and in a few days rich dark cherry-red. On the other hand, solutions of antipyrin remain unchanged (that is, either colourless or yellowish) for a month, or even longer. Being treated by nitric acid, kairin solutions turn to dark cherry-red, and, on being subsequently diluted, they gradually become yellow, the latter coloration occurring still even when only 0·001 per cent. of the drug is present. Antipyrin gives no reaction with the acid. But both kairin and antipyrin solutions assume a claret-red colour on being treated by perchloride of iron ($Fe_2 Cl_6$).

Physiological Action.—A. *Blood.*—As Morokhovetz showed (*see* the LONDON MEDICAL RECORD, October 1884, p. 421), when mixed with an equal volume of a 0·001 per cent. solution of kairin, the blood assumes a claret-red colour, and gives the methæmoglobin bands on the spectroscopic examination. The red blood-corpuscles take a cup-like form and brownish colour. But antipyrin remains entirely inactive, even when a 1 per cent. solution is employed. The same difference between the two substances is observed, also, when intravenous injections of their solutions in dogs are undertaken. B. *Blood-pressure.*—Antipyrin induces an increase of the arterial tension, while the latter is rapidly and very considerably lowered by kairin (after a fleeting initial rise). C. *Pulse.*—Under antipyrin, the pulse becomes somewhat retarded, but its rhythm remains regular; while under kairin it quickens and assumes a filiform character. Some experiments seem to point out that kairin affects the cardiac muscle, the cardiac nerve-apparatus remaining intact. On the contrary, antipyrin appears to act on the latter, and to leave intact the former. D. *Respiration.*—Antipyrin produces a very considerable quickening of the respiration, the type of which, however, remains uniform all through. On the other hand, kairin brings about interrupted or irregular breathing. [Therefore, as far as circulation and respiration are concerned, kairin and antipyrin are endowed with diametrically opposite actions.] E. *Salivary Glands.*—Both of the drugs augment the secretion of saliva; antipyrin may be detected after a while in the latter, though in small quantities. F. *Pancreas.*—Neither antipyrin nor kairin has any influence on the secretion of pancreatic juice. G. *Liver.*—Kairin increases the secretion of bile, the colour of which gradually turns to black, while antipyrin remains entirely inactive. H. *Kidneys.*—Neither of the drugs manifests any action on the quantity of urine. But the first portions of urine voided after the introduction of antipyrin contain a considerable quantity of the drug. [Therefore, antipyrin is eliminated from the system through the kidneys and salivary glands.] I. *Motor Nerves.*—Dr. Pavlinoff confirms the statement of Morokhovetz that kairin, like curare, affects the intramuscular endings of the motor nerves (in frogs); the drug acts antagonistically to strychnine (as Professor F. P. Sheremetevsky supposed). Nothing of the kind is noted as regards antipyrin. J. *Reflex Action.*—Antipyrin increases the reflex action (as Professor Demme, of Berne, first proved). K. *Temperature.*—Antipyrin depresses the normal temperature, but not at any uniform rate, the latter varying from 0°·5 to 2° C. and more; generally speaking, the depression is the more marked, the shorter are the intervals between the doses administered. Under kairin, the temperature sinks in consequence of the drug absorbing oxygen of the blood; hence, the use of kairin in cases of pneumonia, chronic pulmonary disease, anæmia, cardiac disease, &c., is fraught with obvious and immediate danger. In all such cases, antipyrin may be safely and effectively administered, the drug being indifferent in its chemical behaviour towards the blood, and, if anything, strengthening the cardiac action. V. Idelson, M.D.

Article 5210.

JAKUBOVITCH ON THE INFLUENCE OF ANTIPYRIN ON THE TEMPERATURE AND METAMORPHOSIS IN FEBRILE AND HEALTHY CHILDREN.

Dr. Vasily F. Jakubovitch, house-physician to Professor Bystroff's pediatric clinic, in St. Petersburg, studied (*Russkaia Meditzina*, Nos. 21, 22, and 23, 1885) the influence of antipyrin on the temperature and metamorphosis in eleven little patients, aged from 2½ to 11, four of whom suffered from enteric fever, one from tubercular meningitis, two from miliary tuberculosis, the remaining four (reconvalescents after slight ailments) being practically healthy. The drug was given in daily doses, varying from 0·9 to 4·0 grammes. In several cases vomiting occurred; perspiration was observed only after large doses. In two of the cases (a typhoid girl, aged 11, and a healthy girl, aged 7) the administration of 3 and 4 grammes of antipyrin was followed by an elevation of the temperature (to 40°·5 C.), cyanosis, vomiting, rigors, a considerable quickening of the pulse (160 a minute) tremor of the hands, and headache; the symptoms lasting for about twenty-four hours. The author arrives at the following conclusions.

1. As a rule, antipyrin lowers the temperature both in febrile and healthy children, but in the latter less considerably than in the former. [In the febrile, the temperature sometimes fell from 39°·2 to 34°·9 C., or from 40°·8 to 35°·8.]

2. The amount of the depression, however, is not always proportionate to the size of the doses.

3. Probably, the antipyretic effects of the drug are influenced not only by the size of the doses, but, also, by certain individual peculiarities of patients, since even very large doses sometimes prove quite ineffective. [Thus, while in a case nine decigrammes lowered the temperature more than 4° C., in another case the administration of three grammes was followed within three hours by an elevation from 38° to 40°.]

4. When even large doses are given, the temperature keeps at a lowered level not longer than for twenty hours.

5. The greatest depression takes place about midnight; then, towards the morning, a gradual re-elevation ensues.

6. In healthy children, even large doses are unable to produce so low depressions as those observed in the febrile.

7. As a rule, fairly large doses may be well borne by little children for one or two days.

8. Electro-motor excitability is increased during the first day of administration of the drug, the phenomenon being explained by antipyrin stimulating the musculo-motor centres. (This conclusion is drawn by the author from Prof. Demme's experiments on frogs and rabbits.)

9. In exceptional cases, the daily amount of urine is increased, while the specific gravity of the latter is diminished. But usually the daily quantity of urine sinks very considerably (*e.g.* from 520 cubic centimètres to 180; from 340 to 140; from 450 to 200, &c.), while its specific gravity rises (*e.g.* from 1010 to 1025, from 1025 to 1035, &c.). The urine becomes very concentrated and viscid, and assumes the colour of Tokay wine.

10. In both febrile and healthy children, the daily quantities of urea, uric acid, chlorides, phosphates, and sulphates in urine are considerably diminished during the days on which antipyrin is given.

11. About forty-eight hours after the last dose of antipyrin, the daily quantities of all constituents of the urine are found to be considerably increased, comparatively with the days before the administration of antipyrin. It is possible that antipyrin inhibits not only the process of oxydation in tissues, but, also, the elimination of waste-products from the system. Should this supposition find a confirmation by experiments on animals, any prolonged administration of the drug would become hardly allowable.

12. No trace of antipyrin may be detected in the urine (by perchloride of iron, or by iodine with iodide of potassium) forty-eight hours after the last dose given. [A paper by Dr. P. A. Walter on the influence of antipyrin on metamorphosis may be found in the London Medical Record, 1885, October, p. 436. The papers on the use of antipyrin in children, by Drs. Argutinsky and Jacubsky, were published *ibid.*, pp. 11 and 248. In the *Vratch*, No. 49, 1884, p. 827, Professor A. P. Poehl, of St. Petersburg, publishes the results of his examination of the urine from two febrile patients treated by antipyrin in Professor V. A. Manasseïn's clinic. Contrary to Mueller and Jakubovitch, the author failed to find any marked decrease in the elimination of nitrogen by the kidneys, as well as anything like disappearance of free sulphates from the urine. The amount of phenol excreted with the urine remained also unchanged, but that of oxyacids was considerably increased.—*Rep.*]

V. Idelson, M.D.

Article 5211.

YEO ON THERAPEUTICS.

In the *Lancet*, February 1886, pp. 237 and 291, Dr. Burney Yeo publishes a clinical lecture on the subject of therapeutics side by side with disease.

One of the most remarkable gains in the treatment of disease during recent years, has been the employment of large doses of iodide of potassium in the treatment of internal aneurysms. In 1877, Dr. Simpson collected a number of such cases, which had been successfully treated by doses of iodide of potassium ranging from 20 to 40 grains three times a day. The iodide acts by lowering blood-tension uniformly throughout the body, thus diminishing the force of the heart's action. The action of arsenic, and its value in many skin-affections, has been long established, but Dr. Wilks has lately shown its value in preventing attacks of gout and of angina pectoris. It has also been found very useful in relieving some forms of asthma, certain forms of neuralgia, some cases of anæmia and impaired nutrition, and cases of general cachexia of doubtful origin. Dr. Clifford Allbutt has found arsenic of great value in many forms of visceral neuralgia.

The value of aconite in arresting or modifying the febrile process in children and young people is very remarkable, whereas in persons of mature age it has not so marked an action. This fact has been learnt only from careful clinical observation, and shows how valuable such information may become in the treatment of disease. The author also refers to the use of opium, locally applied in traumatic and other inflammations, and to the value of different forms of counter-irritation, which have been discovered through clinical observations. Next, the subject of diuretics is discussed, showing how diuresis may be produced by the combination of two diuretics, which, if given singly, produce no effect.

In cases of typhoid fever fed exclusively on milk-diet, one often meets with patients who suffer from attacks of intestinal pain, owing to the milk forming into masses of curd. This state of things can be remedied by giving them whey, which is easily made by boiling milk with a little lemon-juice. Many cases of dyspepsia derive great benefit from a course of butter-milk for two or three weeks, and this form of diet has also proved of much use in relieving gastric crises in cases of locomotor ataxy.

The lecturer concludes by saying a few words in support of the important part played by 'massage' in the treatment of chronic maladies, and then gives a few hints on the personal manner and force of character that should be displayed by a physician. Three mental qualities are necessary for the successful study and pursuit of clinical therapeutics: 1, absolute openness of mind; 2, absolute freedom from prejudice; and, 3, insight. The chief aim of a medical man should be to heal the sick, and not to aim at being great in one subject, whilst another branch is almost neglected.

RICHARD NEALE, M.D.

ARTICLE 5212.

PLOWRIGHT ON ERGOT.

IN the *Brit. Med. Jour.*, January 1886, p. 197, Mr. Plowright contributes a most interesting article upon the action and production of ergot.

It has been known since the sixteenth century that ergot will produce gangrene, and most practitioners know that unpleasant symptoms are common during a course of this drug. Some observers have shown that ergot causes partial paralysis of the limbs in dogs, whilst Dr. Althaus (*Brit. Med. Jour.*, May 1884, p. 893) says:—'Bread contaminated with ergot of rye will, when habitually taken for some time, cause well-marked decrease of the posterior columns. Although rye bread is not used to any extent in this country, yet one class of the community, at any rate, is liable to ergotism from a source which is not generally recognised. In the eastern counties of England especially, the wheat is often ergoted to a large extent. Of all our cereals, rye is most subjected to ergot, next to it wheat, rarely barley, oats never. Many species of grasses are, unfortunately for the grazier, ergoted to a serious extent. In all these cases the same fungus is the cause (Claviceps purpurea).'

An ergot is an ovule of one of the grasses into which a spore of the Claviceps has gained admission. The spore, once inside, gives rise to a mass of mycelium, which so alters the grain that, instead of developing into starch, it becomes a sclerotium, which remains in a state of quiescence for a long time (one or two years, if necessary), but retaining its vitality until favourable circumstances enable it to produce the perfect fungus, Claviceps. This generally takes place when the grasses and cereals are in flower. The spores of the Claviceps come into contact with the stigma of the grass, and then give rise in the ovule to an enormous number of very minute spores (conidia), which are held together by a viscid material, forming a mass termed sphacelia. The viscid substance in the sphacelia is saccharine. Species of diptera and other insects visit the sphacelia in search of sugar, and thus convey the conidia to healthy stigmata. Subsequently, the production of conidia ceases, and the true ergot is developed by the infected ovule, and so the life-cycle of the fungus is maintained throughout the year. In the fen district, every year, a certain amount of ergot occurs in the wheat, but there is not much fear of the general public suffering any ill effects from this cause, as, in the processes of threshing and dressing, the largest portion of the ergot is eliminated. The agricultural labourers who subsist for many weeks upon their own gleanings are those who suffer from the presence of ergot, as they do not extract it sufficiently when they thresh and dress it themselves. Farmers and millers often mistake ergot for the excreta of mice and rats.

RICHARD NEALE, M.D.

ARTICLE 5213.

DE WECKER ON THE CAUSES OF SUPPURATION AFTER EXTRACTION OF CATARACT.*

THE author considers that extraction by a corneal flap, having a height of 2 or 3 millimètres, is preferable to the linear incision of Von Graefe, and that, when suppuration occurs, it is always the result of infection of the wound.

Broadly speaking, two forms of inoculation of the wound can occur; one shows itself on the third or fourth day, when the deeper parts of the wound and the capsule are closed; the other within twenty-four or thirty-six hours. The former has a greater tendency to confine itself to the cornea, and is more amenable to treatment by antiseptics. In the latter, there is the possibility that the infecting matter may have been introduced beyond the wound by means of instruments, and in the second place it can find its way into the open capsule from the wound. These latter cases are usually indicated within the first twenty-four hours by a marked increase in the conjunctival secretion, by an alteration in the appearance of the pupil, and by severe ocular and circumorbital pain.

The author criticises the statement of Arlt (*Archiv für Ophthalm.*, No. xxxi.) that suppuration is more frequent with a flap-extraction than with Graefe's linear incision. This is true of the old flap, which involved half the circumference of the cornea or more, but is not of the modern flap, which involves only a third. The author believes that a want of immediate union of the wound, and a separation of its lips, simply prolongs the period during which there is danger of infection, a danger that can be removed by the adoption of strict antiseptic precautions. Those who perform extraction only with the large flap, have abundant opportunities of seeing that the absence of primary union of the wound does no *per se* lead to suppuration. Healing may be delayed six or eight weeks by the prolapse of the vitreous body or iris, or by a blood-clot in the wound, and yet there may be no trace of suppuration; and the author believes that, for suppuration to occur, the contact of infecting germs with the wound is necessary.

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* DE WECKER.—On the Causes of Suppuration after Extraction of Cataract. (*Annales d'Oculist.*, No. xciv., p. 225.)

The anterior chamber may not be reformed for ten or fifteen days after an operation, and the majority of cases of suppuration occur after it is reformed, the escape of the aqueous humour tending to prevent the entrance of germs into the interior of the eye.

In the old flap-extraction, the wound healed less readily than in Von Graefe's section, but with strict antiseptic precautions suppuration should be no more frequent. The greater risk of the former operation, as compared with the latter, lies exclusively in the prolongation of the period of healing, and the consequent risk of a breakdown in the antiseptic precautions.

All modern researches into the phenomena of inflammation, accompanied by suppuration (and they are in perfect accord with clinical facts), show that suppuration does not occur without a supply of infecting germs.

The author considers that constitutional conditions act only as predisposing causes of suppuration, by rendering the natural humours more suitable for the evolution of infecting germs introduced from the outer world; and that the same is true of contusion of the tissues, both acting simply by predisposing the tissues to suppuration; but that the latter can only be excited by the infecting germs.

Morbid states of the general health also act by rendering the tissues indisposed for early union, as when senile debility has led to thinning of the cornea, and lowering of the intra-ocular tension, and consequently the coaptation of the wound is imperfect. Such cases are exposed for a long time to the risk of inoculation; but it has been abundantly proved that, even in persons of extreme age, good results may be obtained if antiseptic precautions be taken.

The author believes that the presence of sugar, oxalates, phosphates, or albumen in the urine has no direct influence on the healing of a cataract-wound; but he points out that these cases above all others require the most scrupulous attention to the details of antiseptic treatment, since the aqueous humour, or the cavity of the capsule, in such a case containing *débris* of cataract, may present such chemical conditions that the germs may obtain from them nutritious substances favourable to their development. On the other hand, such affections never cause suppuration unless there be also inoculation.

The result of an extraction may also be more or less marred by iritis or irido-choroiditis. As it has been shown that suppuration of the wound is the exclusive result of infection, so we are in a fair way of proving that iritis and irido-choroiditis are due to entanglement, direct or indirect, of iris or capsule in the wound, and that here also the part played by the diathesis of the patient is merely secondary. The fact that these inflammations cease immediately upon division of the adherent iris or capsule, is itself evidence of their cause.

We may in time eliminate the danger of wound-infection; but we cannot altogether hope to exclude the risk of inflammation, more or less extensive, of the anterior part of the uveal tract, because it is not in our power to regulate the conditions of intra-ocular pressure during and after extraction of cataract. The secondary part which has been ascribed to the influence of the constitutional condition is seen here in the influence which it exerts on the intra-ocular pressure, as well as on the consistence of the cataract, which may render complete evacuation impossible; then the retained cortex, by swelling up, presses the periphery of the iris into the angle of the anterior chamber, and so to a greater or less extent prevents the access of fluid to it.

Every practitioner has noticed that the more peripheral position of the incision, as well as the addition of an iridectomy, have caused a perceptible increase in the frequency of prolonged inflammation after extraction. The more peripheral the position of the incision, the less is the height of the flap; and the more the height of the flap is reduced, the more difficult does it become to separate the edges of the wound sufficiently to allow a free exit of the lens; and when by the passage of the latter the iris is forcibly driven into the angles of the wound, and the tension afterwards is sufficient to maintain it there, it may be impossible to reduce the prolapse. The only method which offers any chance of success is to introduce the spatula at one of the angles of the wound, and to turn it through a quarter of a revolution, in order to separate slightly the lips of the wound. When this manœuvre succeeds, the iris, retracted by means of its sphincter, suddenly escapes from the grip of the wound.

There is a great difference in the result of an adhesion of the periphery of the iris, and of one near the pupillary border; in the former case, the traction is transmitted to adjacent parts, and the prolapse has a tendency to increase in proportion to the intra-ocular tension. When the prolapsed portion is near the sphincter, the traction is only exercised on the free portion of the iris; the prolapse shows no tendency to increase, but it, as well as the iris between the wound and the attached border, becomes atrophied: so that the only result in this case is a more or less pigmented cicatrix, and a displacement and diminution of the pupil, while the peripheral prolapse is often followed by prolonged pain, and irido-choroiditis is not unfrequently set up.

The author believes that simple flap-extraction eliminates almost entirely the destructive irido-choroiditis, which one sees after the operations by the combined linear method.

W. Adams Frost.

Article 5214.

LANNELONGUE ON THE TRACTION TREATMENT OF MORBUS COXARIUS.

Dr. Lannelongue, Surgeon at the Trousseau Hospital, recently read notes before the Paris Surgical Society on the method of traction by the application of weight and continuous extension in treating articular affections, especially strumous hip-joint disease. Le Sauvage, of Caen, described in 1830 this method of treatment, but the American surgeons were the first to realise its importance, and to endeavour, by the aid of different apparatus, to keep the head of the femur from contact with the acetabulum. A child, 4 years old, in M. Lannelongue's wards, died in the early stage of hip-joint disease; its limbs had been under the influence of extension since Oct. 22, 1885; a weight of two kilogrammes, increased to three, had been employed. The apparatus was removed four days before the child's death from croup. An experiment on the dead body was made during a severe frost, and the body was perfectly preserved. The pelvis was separated from the trunk and fixed to a plank by nails, the vertebræ and the ilia being firmly secured. The hip-joint was left thoroughly free, so that flexion, extension, and rotation outwards could be effected without hindrance. Extension was practised as on the living body. The weight attached was four kilogrammes. The experiment commenced at 10.30 A.M., and was continued until 7 P.M. Rigor mortis was absent. The operating room was heated to about 77° Fahr. The limb was frozen with salt and ice, and afterwards with salt and hydrochloric acid. At nine o'clock next morning, the limb was as hard as wood. A section was made with a saw in the direction of the neck of the femur. The relations of the contiguous parts were not disturbed. It was easily observed that the articular surfaces were not in contact with each other; there was an interval of half a centimètre between them and the centre of the joint at the highest point. The cartilage of the head and the lower part of the articulation were in contact. The capsular ligament was strained over the head of the femur, and lay close against it; but in the upper part, the space existing between the articular surfaces was filled with a soft fungoid growth. The head of the femur had slipped downwards; one half, which was not flattened like the upper part, but rounded, lay beyond the cotyloid cartilage. This experiment showed that the separation of the articular surfaces was an actual fact. It must be remembered that this result was due to the application of extension forty-five days before death, not to that practised on the dead body. Nearly the entire capsular ligament had degenerated into fungoid growth, and was unable to resist the influence of traction. M. Verneuil said that M. Lannelongue's experiment explained a fact that had recently come under his notice. On examining a patient with a very severe form of hip-joint disease, he observed that the limb was shortened, and that the great trochanter was displaced upwards. He supposed that there was incomplete dislocation, and decided on practising resection. He then found the head of the femur lying in the acetabulum. It must be concluded that, at a certain period of this disease, the femur becomes deformed, and presents the characteristics of partial dislocation. In future, an apparent shortening, even of three centimètres, accompanied by a moving upwards of the great trochanter, should not warrant the conclusion that the head of the femur is really dislocated.

W. VIGNAL.

ARTICLE 5215.

GAUTHIER ON THE ALKALOIDS OF ANIMAL TISSUES.

THE *France Médicale* of Feb. 7, 1886, publishes an excellent summary of Professor Gauthier's communication to the Paris Academy of Medicine on the 'Alkaloids of Animal Tissues.' In the course of putrefaction in animal tissues, a certain number of poisonous alkaloids are called into existence. The alkaloids of putrefaction vary according to the period when bacterian fermentation begins. Hydropyridic compounds are almost always found. They are apparently alkaline products of the most enduring bacteria, which live and suppress the others. In the excretions of healthy living animals, there are substances of the character of ptomaines. The alkaloids of urine found by Liebreich and Pouchet ought to be ranked with the alkaloids of putrefaction. There are similar ptomaines in saliva and snake-venom, which M. Gauthier names leucomaines, in order to distinguish them from the alkaloids that form in dead bodies, called ptomaines. In 1881 M. Gauthier published a memoir, in which he dwelt on the importance of leucomaines in connection with the genesis of disease, when elimination by the kidneys, skin, and intestinal mucous membrane, was insufficient. Later, M. Gauthier studied the muscular juice of large animals, and extracted five new definite crystallised alkaloids, which acted with more or less energy on the nerve-centres, causing sleep, fatigue, and in some instances vomiting and action of the bowels, but in a less degree than ptomaines. These substances are called into existence during life, just as are carbonic acid and urea. The transformations of the tissues of the higher order of animals are, in a large proportion, of the anaërobic order. M. Gauthier observes that this proposition may appear paradoxical, but he believes he will be able to demonstrate it experimentally and theoretically. Four-fifths of the products of animal combustion are positive aërobic formations, comparable to the oxydation of alcohol under the influence of mycoderma vini or aceti; the fifth part of the combustion of the animal economy takes place at the expense of the tissues, without oxygen playing any part in the process; or, in other words, that portion of the tissue behaves like the anaërobic or putrid ferments. Most of these toxic alkaloids are easily oxydised; they enter into combustion, and disappear entirely or in part. In a normal condition, a very small proportion of muscular leucomaines is found in urine. But if the air that reaches the blood be diminished in quantity, or if the proportion of hæmoglobin be diminished, as in chlorosis or anæmia, or if substances be introduced into the blood which prevent hæmatosis, substances of the character of leucomaines or ptomaines accumulate in the blood. M. Gauthier further states that, with these toxic alkaloids, there exist nitrogenous substances, not alkaloids, which are still more poisonous. The septic poison of Panum contains hardly any alkaloid.

W. VIGNAL.

HYDROPHOBIA.—Several soldiers in French regiments have been bitten by mad dogs. M. Pasteur has consented to treat them without payment. Some wards in the Val-de-Grace Hospital have been prepared to receive patients threatened with hydrophobia. Madame Dagnan has bequeathed 6,000 francs for the benefit of M. Pasteur's patients. They still continue to arrive to be treated. Three young children have been sent from the provinces. A soldier from Nancy, bitten by a mad dog, has been sent to Paris at the expense of his regiment. A professor of the Lycée Corneille at Rouen has solicited M. Pasteur's care under the following circumstances. He had a pet cat, which was generally gentle and domesticated. Suddenly it became savage, would not be stroked, and mewed most pitiably. Its master stroked it, and was bitten. He paid no attention to the bite, but the next morning the cat died; its viscera were sent to M. Pasteur, who diagnosed hydrophobia. The next morning the professor went to Paris. A little girl, who tried to stroke the cat and was also bitten, has been sent to Paris by charitable friends to be treated by M. Pasteur.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5216. Shidlovsky.—On the Treatment of Vesical Catarrh by Boracic Acid. (*Zemskaia Meditzina*, No. 21, 1885; and *Vratch*, No. 39, 1885, p. 652.)

5217. Wicherkiewicz.—On Cucaine in Sea-sickness. (*Przeglad Lekarski*, Oct. 3, 1885; and *Vratch*, No. 42, 1885, p. 704.)

5218. Sutugin, Professor Vasily V.—On the Action of Cucaine in the Vomiting of Pregnancy. (*Vratch*, No. 50, 1885, p. 864.)

5219. Jaworski.—On the Action of Carlsbad Water on the Digestive Functions of the Stomach. (*Gazeta Lekarska*, No. 17, 1885; and *Vratch*, No. 34, 1885, p. 567.)

5220. Zubtchaninoff, G. A.—On the Treatment of Acuminated Condylomata by Tincture of Thuja Occidentalis. (*Russkaia Meditz.*, 1885, No. 45, p. 839.)

5221. Maslennikoff, N. N.—Decoction of Lemons in Intermittent Fever. (*Kavkazsky Meditz. Sbornik*, 1885, vol. 39, Fasc. ii., p. 29.)

5222. Dobroklonsky, V. P.—On the Physiological Action of Grindelia Robusta on the Heart and Circulation. (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 34, 1884, pp. 535–9.)

5223. Grinevitzky, L.—On Grindelia Robusta in Chest-diseases. (*Russkaia Meditz.*, No. 1, 1886, p. 11.)

5224. Grinevitzky, L.—On the Treatment of Erysipelas. (*Russkaia Meditz.*, No. 1, 1886, p. 11.)

5225. Cimbali.—The Mechanical Treatment of Pleuritic Effusion. (*Lo Sperimentale*, October 1885.)

5226. Reber.—On Ichthyol. (*Der Fortschritt*, Jan. 5, 1886.)

5227. Sulphate of Sparteine. (*Comptes Rendus de l' Union Pharmaceutique*; and *Der Fortschritt*, Jan. 5.)

5228. Lafage.—On Morrhuol. (*Der Fortschritt*, Feb. 26, 1886, from *Le Bull. Thérap.* and *Le Bull. Com.*)

5229. Merck.—On Artificial Cucaine. (*Der Fortschritt*, Feb. 20, 1886, and from the *Pharmaceutische Zeitung für Russland.*)

5230. De Coninck.—The treatment of Facial Neuralgia by Hydrochlorate of Cucaine. (*Scalpel; Le Moniteur du Practicien*, Jan. 15.)

5231. Test for Purity of Cucaine. (*Ibid.*)

5232. Moncorvo.—Treatment of Whooping-Cough. (*Gazz. Med. Ital. Lombard.*, Oct. 31, 1885.)

5233. Valter, T. A.—Antipyrin; its Influence on Nitrogen-Metamorphosis and Assimilation in Fever. (*Gazz. Med. Ital. Lombard.*, Oct. 31, 1885.)

5234. Cantani, Prof.—Treatment of Cholera by Hypodermic and Intestinal Injections. (*Il Morgagni*, Nos. 6 and 7, 1885.)

5235. De Renzi, Professor.—Studies in Clinical Medicine. Electricity in the Treatment of Fevers. (*Gazz. Med. Ital. Lombard.*, Jan. 23, 1886.)

5236. Jendrássik.—Calomel as a Diuretic. (*Pester Med.-Chir. Presse*, Nos. 51 and 52, 1885.)

5237. Ehrlich, P., and Laquer, B.—On the continued Administration of Thallin, and its Action in Typhoid Fever. (*Berlin Klin. Wochensch.*, Nos. 51 and 52, 1885.)

5238. Tschistovitsch.—On the Action of Thallin on the Animal Organism. (*Centralbl. für die Med. Wiss.*, No. 52, 1885.)

5239. Häcker.—The Application of Cucaine Hydrochlorate in Erysipelas of the Face and Head. (*Petersburger Med. Wochensch*, No. 25, 1885.)

5240. Scott, Davidson.—On the Internal Use of Chloroform. (*Therapeutic Gazette of Philadelphia*, Jan. 15, 1886.)

5241. Nilsson, Dr. Emil.—On a Case of Tubercular Meningitis Cured by Iodoform. (*Therapeutic Gazette of Philadelphia*, Jan. 15, 1886.)

5242. Silbermann.—Treatment of Anæmia by Subcutaneous Injections of Blood. (*Deutsche Med. Wochensch.*, and *Centralbl. für Klin. Med.*, Dec. 5, 1885.)

5243. Jelinek.—The Treatment of Tracheal Tuberculosis by Lactic Acid. (*Centralbl. für die Gesam. Therap.*, December 1885.)

5244. Kramer.—Treatment of Diphtheria by Bromine and Iodine. (*Centralbl. für Klin. Med.*, December 1885.)

5245. Vinay.—Treatment of Neuralgia by Spray of Methyl-Chloride. (*Centralbl. für Klin. Med.*, Dec. 5, 1885.)

5246. Durand.—Cardiac Stimulants. (*Rev. de Thérap.*, January 1886.)

5247. Porteous.—Strophanthus Hispidus. (*Brit. Med. Jour.*, January, p. 198.)

5248. Leftwich.—The Treatment of Ringworm. (*Lancet*, February, p. 278.)

5249. Davies.—Chloride of Calcium as a Therapeutic Agent. (*Practitioner*, January.)

5250. Kobert.—The Value of Quillaia Bark. (*Practitioner*, January 1886.)

5251. Cory.—The Treatment of Pertussis. (*Lancet*, January, p. 87.)

5252. Routh.—Santonin in Amenorrhœa. (*Lancet*, January, p. 61.)

5253. Gougenheim.—The Treatment of Pulmonary Tuberculosis.

5254. Mollière.—The Treatment of Double Pneumonia by Pilocarpin.

5255. Du Castel.—The Treatment of Small-pox by Opium and Ether.

5256. Ramos, Manuel.—The Treatment of Hiccough by Cooling the Lobe of the Ear. (*Bulletin de Thérap.*, p. 513.)

5257. Robert.—The Constituents of Ergot. (*Archiv für Exper. Pathol. und Pharmacol.*, November 1885.)

5258. Lavrand.—Antipyrin in Epistaxis. (*Jour. de Méd. et de Chir. Prat.*, November 1885; and *New York Med. Record.*)

Art. 5216. *Shidlovsky on Boracic Acid in Catarrh of the Bladder.*—Dr. Shidlovsky writes (*Zemskaia Meditzina*, No. 21, 1885; and *Vratch*, No. 39, 1885) that he has rapidly cured two cases of vesical catarrh by the internal administration of boracic acid, in ten-grain doses, given twice daily, and by simultaneously washing out the bladder with a 2 per cent. solution of the same drug. No unpleasant gastric or other symptoms were produced by ingestion of the acid. [*See* also Dr. R. Neale's note in the *Brit. Med. Jour.*, 1885, Dec. 12, p. 1140.—*Rep.*]

5217. *Wicherkiewicz on Cucaine in Sea-sickness.*—Professor V. A. Manasseïn's recommendation (*see* the London Medical Record, November 1885, p. 482) led Dr. Wicherkiewicz (*Przeglad Lekarski*, Oct. 3, 1885; and *Vratch*, No. 42, 1885) to try cucaine in sea-sickness. He experimented chiefly on children, to whom he administered 3 to 5 centigrammes of cucaine (in a 1 to 5 per cent. solution) every two or three hours. The conclusion at which the author arrived is, that the drug not only acts soothingly on the peripheral ends of the nerves of the stomach, but also lowers the irritability of the nerve-centres. It is necessary, however, to give cucaine in the very beginning of a sea-voyage, since, after vomiting has set in, the drug is unable to check the disease. Starch-capsules are recommended as the best form of administration.

5218. *Sutugin on Cucaine in Vomiting of Pregnancy.*—At a recent meeting of the St. Petersburg Medical Society, Professor Vasily V. Sutugin

(*Vratch*, No. 50, 1885, p. 864) made a communication on vomiting of pregnancy and its treatment by cucaine. The drug was given internally, from one-eighth to one-fourth of a grain every two hours. When administered in conjunction with a suitable (milk) diet in the beginning (first week), cucaine diminished or arrested the vomiting. When given alone, it remained ineffective. The treatment was fully successful only in relatively mild cases. It proved sometimes useful also in cases of moderate severity, but failed to bring any relief when vomiting was so severe as to cause extreme collapse. In one of the latter cases, in a primipara, Dr. Sutugin was compelled to give up the treatment by cucaine and diet, and to resort to scraping out the uterine contents.

5219. *Jaworski on the Action of Carlsbad Water on Gastric Digestion.*—From a series of observations on this subject, Dr. Jaworski draws the following conclusions (*Gazeta Lekarska*, No. 17, 1885; and *Vratch*, No. 34, 1885). 1. At first, Carlsbad water diminishes, but afterwards increases, the digestive power of the stomach. 2. When given in large doses, or for a prolonged period, Carlsbad water may lower the digestive functions of the stomach to a minimal level, while small doses increase the functions. 3. The secretion of bile is augmented. 4. The amount of mucus, as well as the number of microbes abnormally present in the stomach, decrease. 5. The influence of Carlsbad water on the intestinal and renal functions manifests itself only when doses of 750 cubic centimètres (about 26 ounces) and above are employed. 6. Any subjective gastric abnormal phenomena are considerably diminished, or disappear altogether. Pointing to the facts above, Dr. Jaworski advises, in cases of defective chemistry of gastric digestion, to give the water only in doses of 250 to 500 cubic centimètres. When the gastric secretion is abundant and fairly acid, doses of 500 to 750 cubic centimètres should be given. The temperature of the water taken must not exceed 50° or 55° C. (122° to 131° F.). The use of Sprudel, hot as it is (72° C.), would involve the danger of gastric irritation and gastritis, with disgust for the water, and subsequent failure of general nutrition.

5220. *Zubtchaninoff on Thuja Occidentalis in Acuminated Condylomata.*—At a recent meeting of the Arkhangel Medical Society, Dr. G. A. Zubtchaninoff stated (*Russkaia Meditz.*, 1885, No. 45, p. 839) that he saw excellent results from painting acuminated condylomata with tincture of thuja occidentalis, prepared with one part of the leaves to six of alcohol. In one of the cases quoted by the author, the warts became pale and shrunken on the next day after a single painting; a day later, they disappeared altogether. In another case, the same effect resulted from three paintings. In both of the cases, whitish spots ('as if after a burn of first degree') were seen at the site of the condylomata for a while.

5221. *Maslennikoff on Decoction of Lemons in Intermittent Fever.*—Having reviewed the literature of the subject (Maglieri, Stephens, Toropoff, Tommasi-Crudeli, Dominico Azzillo, Norman Forbes, Lauchlan Aitken, Putokhin), Dr. Nikolai N. Maslennikoff proceeds (*Kavkazsky Meditz. Sbornik*, vol. 39, Fasc. ii., 1885, p. 29) to describe his own observations on twenty cases of intermittent fever, treated by decoction of lemons in the Military Hospital in Temïr-Khan Shura, Dagestan region. Seven of the patients were affected by the fever for the first time, three for a second; the remaining had passed previously through several malarial attacks. In thirteen of twenty cases a quotidian, and in seven a tertian, variety was present. In sixteen cases the spleen was found to be enlarged and painful (in fourteen, both during the paroxysms and the intervals). The decoction was prepared after Maglieri's method (*see* the LONDON MEDICAL RECORD, May 1883, p. 197); that is, every evening a whole fresh lemon was cut into very thin slices, put into eighteen ounces of distilled water in an earthen pot, and boiled (for two hours) until six ounces of decoction remained. On the next morning the liquid was forcibly strained through a piece of gauze, and then given to the patient to take immediately at several gulps. The decoction was used in that way for ten or fourteen successive days. In none of the patients did any gastric disturbances occur. The results obtained by Dr. Maslennikoff were not so successful as those by Dr. Putokhin (*see* the LONDON MEDICAL RECORD, February 1885, p. 71). In only six cases, four of which were of quotidian fever and two of tertian, a cessation of paroxysms ensued. In two of the remaining patients, the paroxysms became less severe; and in three the type of fever underwent a change. In none did any alterations in size of the spleen take place. All cases where decoction of lemons had failed, were subsequently, mostly very rapidly, cured by quinine. The general conclusion reached by the author is that, as far as severe Caucasian fevers are concerned, decoction of lemons has, except its agreeable taste and harmlessness, no advantages whatever over other substitutes for quinine.

5222. *Dobroklonsky on the Action of Grindelia Robusta on the Heart and Circulation.*—Following the suggestion of Professor S. P. Botkin, Dr. V. P. Dobroklonsky, of St. Petersburg, has undertaken (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 34, 1884, p. 535) a series of experiments on frogs, in order to examine the action of fluid extract of grindelia robusta (Parke, Davis, & Co.) on the heart and circulation. The main results may be summarised as follows. 1. In small pharmacological doses (0·1 to 0·2 cubic centimètre) the drug causes a slight and fleeting quickening of the heart and an increase of the arterial tension, lasting for several tens of minutes. 2. In large pharmacological doses (0·4 to 0·6 cubic centimètre) it decreases both the frequency of the heart and the arterial tension, the heart ultimately stopping in diastole. 3. In moderate pharmacological doses (0·2 to 0·4 cubic centimètre) the drug, in the beginning, slightly quickens the cardiac contractions and elevates the blood-pressure, but subsequently gradually, but considerably, slows the heart, the arterial tension falling somewhat later. 4. In toxic doses (0·6 cubic centimètre and upwards) the drug swiftly stops the heart in diastole. 5. A *preceding* division of the spinal cord, or of the vagi and sympathetic, or of both of the cord and nerves named, or a preceding subcutaneous injection of sulphate of atropine, does not change the phenomena as stated above; but when made *after* the subcutaneous injection of grindelia, they diminish the number of cardiac contractions from seven to six a minute. 6. A series of experiments with an isolated heart gave essentially the same results as the experiments with the whole animal. 7. Small doses of the extract cause constriction of the arteries; moderate doses first contract and then dilate the vessels; and large doses dilate the latter from the very beginning. 8. Moderate doses rapidly bring about a decrease of excitability of nerves and muscles; the excitability of nerves sinks somewhat sooner, and from comparatively lesser doses than that of muscles. Dr. Dobroklonsky at present studies the action of grindelia on warm-blooded animals; he mentions, however, in his present note that the results obtained up to the date have been, in their essential features, identical with those for cold-blooded.

5223. *Grinevitzky on Grindelia Robusta in Chronic Bronchial Catarrh.*—In the *Russkaia Meditz.*, No. 1, 1886, p. 11, Dr. L. Grinevitzky highly praises the services obtained from the administration of fluid extract of grindelia robusta, in daily doses of two or three drachms, in inveterate chronic bronchial catarrh. Asthmatic attacks are as rapidly as strikingly relieved. Distressing cough soon disappears, nearly altogether, and expectoration becomes easy. The drug, however, entirely fails to relieve any respiratory disturbances accompanying other pulmonary diseases, as well as those caused by cardiac and nervous diseases. [Drs. Rochester and W. Murrell also think highly of grindelia as a remedy for asthma. *See* the LONDON MEDICAL RECORD, October 1881, p. 409.—*Rep.*]

5224. *Grinevitzky on Sulphate of Iron in Erysipelas.*—In the *Russkaia Meditz.*, No. 1, 1886, p. 11, Dr. L. Grinevitzky states that, for the last six years, he has treated all his cases of erysipelas by sulphate of iron (ferrum sulphuricum oxydulatum) in the shape of an ointment made of one or two drachms of the salt to one ounce of lard, and slightly rubbed in the parts affected not less than thrice daily. When thus treated at an early stage, erysipelas ceases to spread, while redness, tension, and heat are diminished very markedly within three days, complete recovery usually ensuing by the end of a week. [The treatment of erysipelas by sulphate of iron is far from being new, as a reference to Dr. R. Neale's invaluable *Medical Digest*, sect. 43 : 4, may prove.—*Rep.*] V. IDELSON, M.D.

5225. *Cimbali on the Mechanical Treatment of Pleuritic Effusion.*—Dr. Cimbali, of Siena (*Lo Sperimentale*, October 1885), has treated several cases of pleuritic effusion by massage and by compressed air, or rather by forcing air into the lungs. The period suitable for this treatment is when the acute symptoms have subsided, and before the condition has become chronic. The massage is carried out by rubbing with firm pressure the greased chest in the intercostal spaces, from vertebral column to sternum, two or three times a day. Apart from the revulsive action on the skin, this probably exerts a directly stimulant action on the pleura, and may even detach pieces of fibrine. The compressed air was administered in rather a novel fashion. By means of an elastic tube with a mouthpiece, air was forced into the lungs from an ordinary pair of bellows, during each inspiratory act, for five or ten minutes, and this was repeated four or five times a day. The object of forcing air into the lungs was twofold: to prevent collapse of the air-cells, and to exert compression on the effused fluid. Of eight cases so treated, seven were completely cured in from twenty-five to forty days. The remaining case, one of enormous effusion of eight months' standing, was entirely unaffected by the treatment. In no case was the slightest inconvenience complained of by the patient. WILLIAM R. HUGGARD, M.D.

5226. *Reber on Ichthyol.*—M. Reber, in a paper published in *Der Fortschritt* (Jan. 5, 1886), states that the remedial action of ichthyol, which recently has frequently been employed in the treatment of various complaints, is similar to, although not identical with, that of salicylic acid. It is used either in its ammonia compound, or as sulpho-ichthyolate of sodium (natrium sulpho-ichthyolicum). Dr. Schweninger, Physician in Ordinary to Prince Bismarck, considers ichthyol to be an antirheumatic remedy of first rank, which has proved of extraordinary efficacy in acute and chronic cases. He, moreover, praises its virtues in neuralgia, sciatica, muscular and articular rheumatism, as well as in other rheumatic affections, and in some diseases of the skin—*e.g.* eczema, and for dressing wounds. Ichthyol is obtained, according to its inventors (The Ichthyolum Company, Cordes, Hermanni, & Co., Hamburg), from the deposits of fossil fish found in the mines of this firm. It is used externally in form of ointments, soaps, and as ichthyolised cotton-wool, and internally in pills and capsules. Professors Baumann and Schotten, who analysed and investigated this new remedy, found it free from any injurious component.

5227. *Sulphate of Sparteine.*—*Der Fortschritt* (Jan. 5, 1886, No. 1) reproduces from the *Comptes Rendus de l'Union Pharmaceutique* a paper on sulphate of sparteine. Sparteine is an alkaloid, which was discovered by Stenhouse in 1856, in the broom, Spartium scoparium L. (Saropthamnus scoparius Wimm). It is a liquid, having the chemical formula $C_{30}H_{26}N_2$. Its extreme bitterness and its perfect insolubility in water preclude its use in the pure state; but, owing to its strong alkalinity, it combines with every kind of acid, and forms, with an excess of sulphuric acid, a salt which is completely soluble in water and crystallisable. This salt was investigated and experimented with for its physiological properties by Mills in 1863, by Fick in 1870, and in 1880 by Rymond, a pupil of Vulpian, in the Chemical Laboratory of Geneva; his results, however, vary greatly from those of Fick. Sparteine was introduced as a cardiac remedy in 1883. Laborde has recently tested the action of this alkaloid on the heart in the state of health. The author of this paper, after numerous experiments on animals, and after having determined the range of active but non-toxic doses, decided the therapeutic formula for patients suffering from diseases of the heart. An aqueous solution of one decigramme (1·54 grains) of sulphate of sparteine produced marked effects on the heart, without, however, acting in the slightest degree on the nervous system or the digestion. Germain Sée, in his experiments with sulphate of sparteine, found it a dynamic remedy regulating the action of the heart, with three characteristic effects. The first and most important effect is the raising of the action of the heart and of the pulse, in which respect it is equivalent to digitalis, tincture of convallaria majalis, &c.; but its tonic action is more marked, more rapid, and more durable. Its second effect is the immediate regulation of the disturbed cardiac rhythm, an effect so positive that that of no known medicament can be compared with it. The third result is acceleration of palpitation, which in high degrees of atony is associated with great weakness of the heart; in this respect, the action of sparteine may be compared with that of belladonna. These effects manifest themselves after one hour, exceptionally after several hours, and continue for three or four days after the remedy has been withdrawn. During this time the general strength increases, and the respiration becomes easier; but in a less degree than after iodide of potassium. Micturition alone seemed not to be influenced after a moderate dose of the salt, as hitherto prescribed by the author. Sulphate of sparteine appears, therefore, to be indicated in every case of atony of the myocardium, either in consequence of structural alterations of the tissue, or from having become insufficient for compensating the impediments to the circulation. When the pulse is irregular, intermittent, and arhythmic, sulphate of sparteine will rapidly re-establish its normal character. When the circulation is weak and retarded, this remedy appears immediately to overcome this functional disturbance, maintaining or increasing at the same time the re-acquired strength of the cardiac muscle.

5228. *Lafage on Morrhuol.*—The incontrollable aversion of some patients to cod-liver oil, notwithstanding the many methods for disguising its objectionable taste, induced Dr. Joseph Lafage to investigate the active principles of this remedy. Its beneficial properties are due, according to some views, merely to the fat, whilst others attribute them to the presence of iodine, of bromine, or of phosphorus. Dr. Lafage, assisted by Dr. Chapoteaut, endeavoured to isolate the different constituents of cod-liver oil by the following proceedings. 1. The oil was treated with an aqueous solution of carbonate of soda, which dissolves the acid at a low temperature. 2. The oil was agitated with alcohol of 90 per cent; the alcohol, after separation from the oil, was submitted to distillation, and the product thus derived contained the active principles of the cod-liver oil. The oil, by both these processes, became almost inodorous, perfectly tasteless, and identical with the oils obtained from animal fats. The product—'morrhuol'—is acrid, bitter, very aromatic, and partly crystallises at an ordinary temperature. It contains considerable quantities of iodine, bromine, and phosphorus, ten to twelve times as much as the original oil. These form a complicated compound, the investigation of which is reserved for the future. The quantity of morrhuol varies in different oils. Brown oil yields from 4·5 to 6 per cent., amber-coloured oil from 2·5 to 3 per cent., and white oil from 1·5 to 2 per cent. After this removal of their active principle, the oils proved perfectly inert; they had lost all the specific properties of cod-liver oil. Morrhuol, therefore, constitutes undoubtedly the active principle of cod-liver oil. Being of a disagreeable taste, and of a predominantly aromatic odour, it is advisable to prescribe it in capsules, each containing two decigrammes (three grains) of morrhuol, which are equivalent to five grammes (four scruples) of ordinary cod-liver oil. Two capsules may be given daily to children from six to eight years of age, four capsules to children of twelve years, and eight capsules to adults. Morrhuol, even after a long-continued use, never impaired digestion; on the contrary, the appetite seemed to improve, and beneficial results become more rapidly manifest than from cod-liver oil. Morrhuol proved particularly valuable in the first stage of tuberculosis, in infantile scrofulosis and rhachitis, and in chronic bronchitis.

5229. *Merck on Artificial Cucaine.*—Merck states that, by dissolving several grammes of benzoyl-ecgonine with an empirical quantity of iodide of methyl and of hydrate of potash in methylated alcohol, and by raising the temperature of this solution in a closed tube to 100° C. (212° F.), reaction took place according to the following formula:

$$\underset{\text{(Benzoyl-ecgonine)}}{C_{16}H_{19}NO_4} + CH_3I + KOH = \underset{\text{(Cucaine)}}{C_{17}H_{21}NO_4} + KI + H_2O$$

The product of this reaction had the smell of benzoic ether. After the evaporation of the methylated alcohol, it became evident that the benzoyl-ecgonine had been acted upon by the hydrate of potash. In a second experiment, the benzoyl-ecgonine, with iodide of methyl in slight excess, and with an equal volume of methylated alcohol (*i.e.* equal parts of iodide of methyl and methylated alcohol), but without the alkali, were heated in a closed tube, likewise to the temperature of 100° C. (212° F.), and afterwards inspirated in a *bain-marie.* The brown syrup-like product thus obtained ought to include cucaine in form of a hydro-iodic salt, if the above reaction have really taken place. On treating this product with water, the hydro-iodate of cucaine behaved exactly in the same manner as observed by Lossen—viz., brown crystals, similar to those of cucaine, gradually formed, and moreover, by rapid crystallisation from diluted alcohol, delicate soft yellow needles were obtained. For final purification, the brown syrupy product was agitated with moist oxide of silver at a gently elevated temperature, and, after cooling again, filtered. The cucaine, dissolving only with great difficulty in water, remained with the iodide of silver on the filter. After washing the contents of the filter with water, and extracting with alcohol, the cucaine crystallised in large laminated hemimorphous crystals. After repeated crystallisation from the alcohol, the artificial cucaine possessed exactly the same melting point, 98° C. (208°·4 F.), as natural cucaine. Analytic examination, as well as all the reactions, rendered it beyond doubt that this artificial product is identical in every respect with natural cucaine.

5230. *De Coninck on the Treatment of Facial Neuralgia by Hydrochlorate of Cucaine.*—Dr. de Coninck, of Ledeberg-les-Gant, writes to the *Scalpel,* of Liège (*Le Moniteur du Practicien,* Jan. 15) that the effects of hydrochlorate of cucaine in facial neuralgia, and in cephalalgia having its seat in the temporal region, are surprising. The pain, be it ever so intense, will instantaneously cease on applying to the auditory canal one minim of a solution of 1 per cent. of this salt, by means of a small camel-hair brush. This signal effect, however, will only continue for a few hours, after which a repeated application may be required. Hydrochlorate of cucaine has never failed in the many cases of these kinds of neuralgia, treated in that manner by Dr. de Coninck. In neuralgia of the fifth nerve and its branches, however, the results were less certain and less satisfactory, owing, perhaps, to the superficial mode of its employment.

5231. *Test of the Purity of Cucaine.*—The *Pharmaceutisch Weekblad* (*Le Moniteur du Practicien*) communicates the following method of detecting the presence of hygrine and egonine in the hydrochlorate of cucaine. If, on treating this salt with cold concentrated sulphuric acid, a complete colourless solution is obtained, the hydrochlorate of cucaine will be perfectly pure, whilst a more or less coloured solution will indicate the presence of both the aforenamed alkaloids. FERD. ADALB. JUNKER, M.D.

5232. *Moncorvo on the Treatment of Whooping-Cough.*—Dr. Moncorvo, of Rio de Janeiro, recommends pencilling of the isthmus of the fauces and laryngeal orifice with a 10 per cent. solution of hydrochlorate of cucaine. After some minutes, the same parts are to be painted with a solution of resorcin, which he considers as the specific germicide of this disease.

5233. *Valter on Antipyrin and its Influence on Nitrogen-metamorphosis and on Assimilation in Fever.*—The author's observations, made on patients in the clinic of Professor V. A. Manasseïn, had this object; to determine whether antipyrin presents the essential conditions of an useful antipyretic remedy; whether, that is, it is capable of diminishing the decomposition of the tissues or the production of heat, without damaging the assimilation of food, and without having a harmful action on the heart or brain. The patients were submitted to experiment for six days, and were affected by pleuro-pneumonia, typhoid fever, bacillary phthisis, and pleurisy with exudation; they were limited to milk, fruit-syrups in water, and pure water. In the first three days they had no medicine, in the succeeding three days they were given enough antipyrin to maintain the temperature at the normal; this was obtained by daily doses of 3 to 8 grammes. The author comes to the following conclusions. 1. Antipyrin is an excellent and safe antipyretic. 2. Antipyrin, while it diminishes the febrile temperature, diminishes also the metamorphosis of the nitrogenous substances of the tissues, without producing any harmful effect on the heart or brain. 3. In the majority of cases, assimilation of nitrogenous substances improves under the influence of antipyrin. 4. Antipyrin sometimes has a good effect on diarrhœa.

5234. *Cantani on the Treatment of Cholera by Hypodermic and Intestinal Injections.*—Prof. Cantani gives in Nos. 6 and 7 of *Il Morgagni*, 1885, the results of treatment by hypodermic injection in 226 cases of cholera; of these 155 were cured, the mortality being therefore slightly over 31 per cent. After hypodermic injection the pulse returned in the radial arteries, even in individuals threatened with cardiac paralysis, and the urine was again secreted even in cases of complete anuria. The result was always more marked, if the operation were repeated. Treatment by intestinal injection was even more successful in 1884. By this method the affected part, that is, the small intestine, is acted on directly. Various acids capable of rendering the intestinal contents acid, have been recommended; but Cantani, having obtained excellent results with tannic acid, prefers it to all others. He uses from 1½ to 2 litres of hot water (39° to 40° C.) with from 3 to 6 grammes of tannic acid to the litre. He alleges that the hot intestinal injection of tannic acid contracts the vessels, sterilises the bacilli, perhaps renders the ptomaines less liable to absorption; it slightly acidifies the intestinal contents, stimulates the nervous system, and gives heat to the organism and prevents the anuria. Intestinal injections of corrosive sublimate, since Koch has shown that the sublimate in dilute solutions is fatal to the bacilli, may be tried. In hypodermic injections, Cantani uses a solution of 4 grammes of chloride of sodium with 3 grammes of carbonate of soda to a litre of hot water at 38 or 40° C. The best situation for the injection is the side of the abdomen. The quantity of liquid injected at a time ought not to exceed 1,500 cubic centimètres. The injections should be repeated several times at short intervals.

5235. *De Renzi on Electricity in the Treatment of Fevers.*—Some years since, Professor de Renzi cured accidentally a quartan fever, which had resisted other remedies, by the simple application of electricity. Since that time he has often succeeded, especially with the faradic current, in cutting short intermittent fevers, quotidian or tertian in type. During last year he has continued his experiments, and comes to the following conclusions. 1. Miasmatic fevers are much more influenced by the electric current than the symptomatic fever of bronchial catarrh, pulmonary tuberculosis, pernicious progressive anæmia, &c. 2. During the application of electricity the temperature remains elevated, even augmented by several tenths of a degree. Immediately after, or at the most after one or a few hours, it falls, even as much as 2½° C. 3. The patient may hold the two dry rheophores of the faradic apparatus in his hands. The greatest effect, however, is obtained by the patient holding one moist rheophore in his hand, while the other, terminating in a metallic brush, is passed over the surface of the body. 4. The arterial pressure is much increased during the application of electricity. The skin is reddened, and often becomes bathed in sweat, and the pulse is stronger. The antithermic action of electricity is therefore probably due to increased activity of the circulation of the blood through the cutaneous capillaries, leading to a greater loss of caloric.

G. D'Arcy Adams, M.D.

5236. *Jendrássik on Calomel as a Diuretic.*—Jendrássik has used calomel with excellent results in the dropsy of heart-disease. In six cases, comprising twenty-four separate experiments, diuresis occurred twenty-three times; the maximum daily amount of urine varying between 2,100 and 9,500 cubic centimètres (95 to 339 ounces). The amount of diuresis depends on the dose of calomel given. As a rule, the dose was 0·2 gramme (1½ grain), three to five times a day. The diuresis did not appear till after the administration of the drug for one day, and lasted as long as the œdema was present. Unfavourable symptoms noticed were a metallic taste in the mouth, salivation, and stomatitis; but it is important, the author says, that the diuresis appears before the onset of diarrhœa caused by the drug. The urine contains an excess of chlorides; hyaline casts are often seen. In a case of pleurisy, with effusion, calomel had no effect on the urine. As to the mode of action of the drug in cases of cardiac dropsy, the author says that it can hardly be through the heart, which is only secondarily and slightly affected by calomel. It is probably through the kidneys, a sort of diabetes insipidus being established. As precautions in the employment of this mode of treatment, small doses of laudanum combat incipient diarrhœa; and for the stomatitis a mouth-wash of chloral of potash is prescribed from the first. Though no harmful action on the kidneys was noticed, a caution is given against employing this treatment in disease of the kidneys.

5237. *Ehrlich and Laquer on Thallin in Typhoid Fever.*—Drs. Ehrlich and Laquer found no beneficial result from the administration in fever of large doses of thallin—·25 to ·3 gramme (4¼ to 4½ grains). The elimination of the drug is so rapid, that no prolonged benefit is observed. With small frequently repeated doses the result was different, as the following cases of typhoid fever show. Only those cases were treated with thallin in which the diagnosis was certain. The drug was given in water, with a little sugar and alcohol; or, if the taste were still too disagreeable for the patient, in pill. The dose varied from ·04 to ·15 gramme, or even ·2 gramme (⅗ to 2¼ grains, or 3 grains). The treatment began with the smallest dose, which was given every hour during the day and every two hours during the night, as the patient began to become accustomed to the drug. The drug was gradually increased by a centigramme (⅐ grain) every two or three hours. It is necessary to find out, with each patient, what dose can be borne without untoward symptoms. With this method of treatment by graduated dosage, the authors obtained excellent results, not only in the antipyretic effect, but in the beneficial influence on the general condition. Temporary sweating was noticed in most cases, but shivering and rigors only exceptionally, and collapse not at all. The digestion, the secretion of the kidneys, and the nervous system were not influenced; and only once was vomiting noticed: this, however, was prevented by giving the medicine in pill form. In nine cases of typhoid fever, in the first and second weeks of illness, there was 'definite apyrexia' after four or five days of the administration of thallin, there having been no previous treatment by drugs. In three cases, which had been treated with quinine, cold baths, &c., complete apyrexia followed in one to two days after the commencement of treatment by thallin. In two cases, thallin had no effect at all. The authors conclude that, correctly administered, thallin has a specific action in typhoid fever; they have compared the action of the drug with that of quinine in malarial fever, and found that it had no effect on the fever. In rheumatic fever also there was no benefit, though rapid recovery occurred with salicylic acid. Better results were obtained in erysipelas and pneumonia.

5238. *Tschistovitsch on the Action of Thallin.*—This observer comes to the conclusion that, in dogs and rabbits, doses of ·02 to ·2 gramme of thallin for each kilogramme of body-weight sometimes produce a fall of the normal body-temperature, but in many cases no reduction occurs. In feverish animals, doses of ·02 to ·1 gramme per kilogramme of body-weight reduce the temperature ·5° to 3° C., the apyrexia lasting two to six hours. Thallin causes in healthy dogs a lowering of the blood-pressure, and a lessened frequency of the heart's beats. The former result is due to the action of thallin on the peripheral vaso-motor apparatus; the latter to an action on the heart itself. The effect on the peripheral vaso-motor mechanism is supported by many experiments, which are quoted; the most important of which is one, in which stimulation of the peripheral ends of the splanchnic nerves caused no rise of blood-pressure, after a dose of thallin had been given to the animal. An experiment similar to that just mentioned was performed with the cut sympathetic of the neck: in this case there was no noticeable contraction of the vessels of the ear. Thallin is also, according to the author, antifermentative, having a marked hindering effect on peptic digestion when added to the digestive mixture in the proportion of 2 to 3 per cent.; a proportion of 5 per cent. prevented the alcoholic fermentation of grape-sugar.

5239. *Häcker on the Application of Cucaine Hydrochlorate in Erysipelas of the Face and Head.*—Dr. A. Häcker describes two cases of erysipelas in which the local application of cucaine relieved the symptoms. The first case was one in which a woman, aged 32, had erysipelas of eight days' duration affecting the greater part of the right side of the face; the left ear and cheek were also slightly red and swollen. Some of the blebs had broken, leaving a raw surface; there was much burning and pain. An ointment of cucaine (·3 gramme to 15 grammes of oleum theobromæ) was ordered to be rubbed in every hour; this rapidly relieved the pain, allowing the patient to sleep and even to lie on the side. The inflammation did not spread; in five to six days the infiltration had almost disappeared, and in six days more the patient was quite well. The second case was a woman, aged 25, seen on the fourth day of illness; she was suffering from left facial erysipelas, starting from a crack in the mucous membrane of the nostril. The evening temperature was 40° C. (104° F.). Cucaine hydrochlorate in rose-water (·3 gramme to 15 grammes) was ordered to be applied every half-hour. In two days the pain was much relieved, and in five days the infiltration had diminished, there being no spread of the inflammation after the commencement of treatment. The author remarks on the twofold action of cucaine, viz., the relief of pain and the stopping of the inflammation. As a vehicle for a cucaine-ointment, he recommends cocoa-butter or (English) cold cream. SIDNEY MARTIN, M.D.

5240. *Scott on the Internal Administration of Iodoform.*—Dr. Scott says that the fears entertained as to the danger of giving chloroform internally in therapeutic doses is entirely unfounded. In drachm doses it is, he says, a safe hypnotic, the physiological effect being sleep of one or two hours' duration; but the patient must be kept quiet, in the recumbent posture, in a darkened room. He says that he has used it in more than five hundred different individuals, for various morbid conditions, without unpleasant effects in any case. It is indicated in convulsions due to peripheral irritation, delirium tremens, strychnine-poisoning, &c.; while it is contra-indicated in all inflammatory conditions, and should never be administered when nausea or vomiting is present. Dr. Scott adds that he has often given teaspoonful doses of undiluted chloroform to infants two and three years of age, during the unconsciousness that follows convulsions, with the best of results so far as preventing any further convulsions is concerned. The notes of a case are given where a confirmed inebriate, bordering on delirium tremens, had taken 25 fluid drachms of undiluted chloroform, within a period of twelve hours, without its incapacitating him from eating or getting about. He particularly recommends it in congestive chills, but doubts its value as a tænicide.

5241. *Nilsson on the Treatment of Meningitis with Iodoform.*—Dr. Emil Nilsson alleges that he has effected the cure of an undoubted case of tubercular meningitis by means of frictions on the scalp with iodoform ointment (1 in 10). The patient was a boy, aged 8, whose mother had a family history of phthisis, and four of whose brothers and sisters had died from tubercular meningitis. The symptoms in this child's case were similar to theirs: headache, torpor, convulsions, strabismus, and pyrexia. He was at first treated with calomel and iodide of potassium, and did not improve. After being under treatment a week, he became distinctly worse, being unable to take food or medicine. The pallor of the face, which had existed so far, gave way to flushes of the cheeks. The child threw himself out of bed, and presented several clonic spasms of the limbs and of the facial muscles. The head was then shaved, and iodoform ointment rubbed in, an oil-skin cap being put on. The friction was repeated three or four times in the day; and the next day there was a decrease in the convulsive movements, the sleep was calmer, and the spasmodic contractions, which had previously been excited by the slightest noise, now ceased to be so. Consciousness shortly afterwards returned, and the complexion became of a more natural colour. This, however, was accompanied by a severe coryza, redness of the lips, and an irritable cough, the breath smelling strongly of iodoform. The other symptoms soon disappeared, and the child appeared to regain his ordinary health.

5242. *Silbermann on Subcutaneous Injections of Blood in Anæmia.*—The *Centralbl. für Klin. Med.* for Dec. 5 reports from the *Deutsche Med. Wochensch.* two cases, communicated by Silbermann, of the treatment of anæmia by subcutaneous injections of blood. One case was that of a boy aged 8, suffering from fainting fits and drowsiness. Twenty cubic centimètres of blood were injected under the skin of each thigh at the first sitting, and again forty-nine days later. Improvement began at once, and continued until cure resulted in two and a half months. The second case was that of a girl aged 11, suffering from severe anæmia in consequence of hæmorrhage from a rectal polypus. Twenty-five cubic centimètres were injected into each thigh in this case, and the result was complete cure in six weeks, with an increase in weight of 6 lbs.

5243. *Jelinek on the Lactic Acid Treatment of Tracheal Tuberculosis.* — The *Centralbl. für die Gesam. Therap.* for December contains a lecture by Dr. Edmund Jelinek, of Vienna, on the lactic acid treatment of tracheal tuberculosis. He has treated a sufficient number of cases to be able to make a general summary of them, and he has found the lactic acid to be far more efficacious than any other kind of treatment. On account of the irritation, pain, and spasm of the glottis which are sometimes induced, he recommends beginning with weak aqueous solutions, and in very sensitive cases he employs cucaine for a preliminary brushing. He generally begins with a 20 per cent. solution of the acid, proceeding to 50 and 80 per cent., and finally to the undiluted drug. The acid affects less powerfully those parts of the mucous membrane which are merely swelled and infiltrated than those which are denuded, and in the former case the acid must be pressed in, while in the latter it must be merely brushed over. The eschar soon separates, leaving the mucous membrane underneath reddened, but intact. Dr. Jelinek considers that the use of lactic acid saves many a patient from tracheotomy, and enables many others to discard the tube which they would otherwise have had to wear all their lives. The chief influence which the acid has on pulmonary tuberculosis is probably the prevention of infection by removing the primary affection; it seems to have no effect on the progress of the tuberculosis in the lungs themselves.

5244. *Kramer on the Treatment of Diphtheria by Bromine and Iodine.*—Dr. Kramer, of Amsterdam, has found a new remedy for diphtheria in the form of a mixture of bromine and iodine, with which he has made some remarkable cures (*Centralbl. für Klin. Med.* for December 1885). He uses the remedy also as a prophylactic, brushing the throat night and morning during an epidemic, first with one and then with the other of the following solutions: 1. Bromide of iodine, bromide of potassium, of each 1 part; distilled water, 200 parts: 2. Carbolic acid, 1 part; rectified spirit and glycerine, each 25 parts. The same solutions are used for the disease itself, but the first may be increased to double the strength, and is applied every hour, the second being used three times a day. The treatment is concluded by blowing benzoate of sodium into the throat three times a day, administering the same drug in doses of two to four drachms, according to the age of the patient, and keeping the bowels open.

5245. *Vinay on the Treatment of Neuralgia by Spray of Methyl-Chloride.* — The *Centralbl. für Klin. Med.* for December 5 contains an account by Vinay of the treatment of neuralgia by means of a spray of methyl-chloride. The result of the application is to freeze the skin of the part in a few seconds; and although the pain at the commencement is generally considerable, the local freezing soon disappears—to be succeeded first by anæmia and anæsthesia, and then by redness and hyperæsthesia. The former pain passes gradually off, leaving at last only a slight feeling of warmth, and the neuralgic pain has also disappeared. An occasional complication is inflammation with vesication, which may prevent a repetition of the application for eight or ten days. The writer alleges that he has cured by this means cases which have obstinately resisted all other treatment.

ALICE KER, M.D.

5246. *Durand on Cardiac Stimulants.*—In a memoir which has been rewarded by the Catholic Faculty of Lille, the author (*Rev. de Thérap.*, January 1886) gives some valuable information on adonidine, and compares its action with that of other drugs, such as digitalis, convallaria, and caffeine. Adonidine acts on the heart somewhat like digitalis, but it possesses no cumulative properties; its diuretic effects are very marked, and it can be used for a long time without causing any symptoms of intolerance. It should be given at a dose of 2 centigrammes (⅓ grain); when the beats of the heart are irregular or unequal, digitalis is the best remedy, and adonidine is much less useful. On the other hand, the latter gives good results in all cases where the arterial tension is too low. As a diuretic, caffeine is to be preferred. J. S. KESER, M.D.

5247. *Porteous on Strophanthus Hispidus.*—In the *Brit. Med. Jour.*, January 1886, p. 198, Dr. Porteous gives notes of three cases of cardiac disease treated with small doses of strophanthus hispidus. In all three cases, the author noted that it increased decidedly the flow of urine, and also caused a certain amount of moisture over the surface of the body. It also caused relaxation of the bowels in all the patients. It makes the pulse markedly firmer, and raises it for a short time after a dose has been taken. In one case, in which a dose of four minims was given three times a day, it produced purging and vomiting. The author considers it advisable to begin with a dose of three minims of the tincture. It is a valuable drug for controlling the heart's action, but it is not suitable for every patient (vide *Medical Digest*, sect. 393 : 1).

5248. *Leftwich on the Treatment of Ringworm.*—In the *Lancet*, February 1886, p. 278, Dr. Leftwich describes a case of ringworm treated most successfully in the following manner. The hair having been cut close to the scalp all round the patch, this was painted with an alcoholic solution of iodide of mercury; then an iodine plaster, containing half a drachm of solid iodine to the ounce, was spread on a piece of kid and carefully applied over the patch. This was kept on for a fortnight, and then another was applied for another fortnight, when it was found that the patch was well.

5249. *Davies on Chloride of Calcium as a Therapeutic Agent.*—In the *Practitioner*, January 1886, p. 12, Dr. Davies contributes an article upon the value of chloride of calcium as a glandular deobstruent. The author records the following remarkable case. A gentleman, aged 37, suffered from enlargement of the cervical, axillary, and inguinal lymphatic glands since childhood; as he grew up, they gradually but steadily increased in size. The patient was prescribed large quantities of hypophosphites, and twice took a trip to Australia, without any diminution in the glandular enlargements. In 1880, the glands in the right axilla were so large and hard, that he was always compelled to sleep with his right arm over his head. In 1881, his voice began to be weak, owing, no doubt, to pressure upon the laryngeal nerve. In 1882, his voice was reduced to a whisper. In the latter part of this year, the patient was ordered to take chloride of calcium, in ten-grain doses, three times a day. After about a month he began to increase the dose, and took twenty grains thrice a day for some time; then he increased the dose up to forty grains, as there was a distinct decrease in the size of the glands. In three months he was enabled to sleep with his right arm by his side, and all the enlarged glands were distinctly decreasing. The voice improved, but did not recover perfectly, though he continued to take forty grains of the drug thrice a day for nearly a year. No unpleasant symptoms were noticed during the time, except that he sometimes complained of a scalding sensation on passing urine in the mornings. Cases are also recorded showing the value of the drug in enlarged scrofulous glands. In the application of chloride of calcium, three points should be borne in mind; 1. the necessity of a cautious but gradual increase in the strength of the dose taken; 2. the steady persistence in its use for a lengthened period; 3. its uselessness in cases where suppuration has already commenced. [The great value of chloride of calcium in many glandular and other diseases may be gathered by a reference to sect. 274 of the *Medical Digest*, and also to the admirable papers by Drs. Ringer and Creighton in the *Practitioner*, vol. ii., 1883, p. 81; and vol. ii., 1885, p. 161.—*Rep.*]

5250. *Kobert on the Value of Quillaia Bark.*—In the *Practitioner*, January 1886, Dr. Kobert contributes an article on the subject of senega and its value as an expectorant. The author states that the active principles of senega are not easily obtained, and consequently many specimens are sold which do not contain sufficient of these principles. Dr. Kobert has found that the two chief principles of senega occur in much greater quantity in the bark of *quillaia saponaria*; this costs about one-fifth of the price of senega. These two principles he has named quillaic acid and sapotozine. A decoction of quillaia bark (5 to 200 of water) has a much pleasanter taste than that of senega. This drug facilitates expectoration when the mucus is tenacious, and at the same time is a stimulant to expectoration.

5251. *Cory on the Treatment of Pertussis.*—In the *Lancet*, January 1886, p. 87, Dr. Cory writes that he has found the following method of treatment very useful in cases of whooping-cough. At the commencement, the author gives a smart purge, either of compound jalap powder or of compound scammony powder. Then the patient is dosed with a mixture containing carbolic acid and tincture of tolu, in doses as strong as it is safe to give it. In many cases, this treatment acts as a speedy specific. [The specific value of carbolic acid is shown at sect. 714 : 2 and 715 : 6 of the *Medical Digest.*—*Rep.*]

5252. *Routh on Santonin in Amenorrhœa.*—In the *Lancet*, January 1886, p. 61, Dr. Amand Routh writes that he has tried the effect of santonin in twenty cases of amenorrhœa, and failed completely in seventeen. The drug was given as suggested by Mr. W. Whitehead (*Lancet*, September 1885) in ten-grain doses of the powder, to be taken on two consecutive nights. Dr. Routh concludes that santonin, as a direct emmenagogue, is useless in amenorrhœa associated with chlorosis, in which cases permanganate of potash is most useful. In healthy or full-blooded women, santonin seems to have some power in starting an uterine flow, apparently without much pain. Its mode of action in these cases is quite unknown, so that it is not likely to be much employed. [The reporter again advises caution in giving ten-grain doses, as frequently most alarming symptoms are produced if the drug be pure.—*Rep.*]

Richard Neale, M.D.

5253. *Gougenheim on the Treatment of Pulmonary Tuberculosis.*—M. Gougenheim has been treating pulmonary tuberculosis by making intraparenchymatous injections of bichloride of mercury. On the left side below the clavicle, through the first intercostal space, the injection passes easily and safely into the lung; on the right side, through the first two intercostal spaces. In order to avoid all accidents, it is necessary to make the injection at a distance from the sternum and the neighbouring rib, in order not to injure the intercostal and mammary vessels and nerves; neither should it be made too near the clavicle, or the subclavian vein may be injured; the subcutaneous veins should be avoided. The injection should be given slowly, in order to avoid the production of cough and hæmoptysis, which sometimes result from a sudden irruption of blood into the pulmonary tissues. At the necropsies of patients who had been thus treated, Dr. Gougenheim never observed any muscular, pleural, or pulmonary lesions, which could be attributed to these injections. The Pravaz's syringe used was cleaned antiseptically. This treatment was adopted with thirty-three patients, most of whom were in an advanced stage of phthisis. In twenty-one instances, improvement was quick and undeniable. Ten patients died; of these, seven presented local modifications of lesions, which were easily detected at the necropsies. The solutions injected were of the strength of 1 in 2,000, 1 in 1,000, and 1 in 100. The injection fluid was always previously heated to normal temperature—37° C. (98°·6 F.) One patient had hæmoptysis, and the injections were discontinued; another left the hospital whilst treatment was going on.

5254. *Mollière on the Treatment of Double Pneumonia by Pilocarpin.*—Dr. Humbert Mollière has successfully treated double pneumonia with pilocarpin. The patient, exhausted by dysentery and albuminuria, was attacked with pneumonia in both lungs, and the intestinal disturbance was greatly aggravated. A centigramme of pilocarpin was injected; the respiratory movements fell from 48 a minute to 24, and dyspnœa was much relieved. Four hours later, a fresh injection was made, and was repeated the next morning. Each injection was followed by profuse sweats and salivation, and the dyspnœa was still further relieved. The patient rapidly recovered. In administering pilocarpin, M. Mollière was guided by former experience. An elderly man, with uræmia accompanied with dyspnœa and delirium, who seemed to be dying, was greatly relieved, and ultimately cured, by a similar treatment. Dr. Mollière describes another case. A young woman, with a comatose form of uræmia and renal lesion following a cardiac affection, was relieved from the comatose condition by injections of pilocarpin.

5255. *Du Castel on the Treatment of Small-pox by Opium and Ether.*—M. Du Castel, at a recent meeting of the Société Médicale des Hôpitaux, read a paper on the advantage of strong doses of opium and subcutaneous injections of ether in small-pox. During the last four years, he has adopted this treatment in all his cases. He divides small-pox patients into two classes; those who have been vaccinated, and those who have not. Among those who have not been vaccinated, opium and ether considerably modify the period of suppuration; among those who have been vaccinated, this treatment completely suppresses it. Fifteen centigrammes of opium are administered to women, twenty to men. Two Pravaz's syringefuls of ether are injected daily. This treatment reduces the illness to a period of eight or ten days.

5256. *Ramos on the Treatment of Hiccough by Cooling the Lobe of the Ear.*—Dr. Manuel Ramos, a Brazilian (*Bulletin de Thérap.*, p. 513), has seen irrepressible hiccough cured by cooling the lobe of the ear with cold water or even saliva; he believes this effect may be explained by reflex action. It more probably belongs to the order of phenomena explained by inhibition, such as an attack of epilepsy arrested by the flexion of the big toe, or curing sciatica by cauterising the lobe of the ear. M. Brown-Séquard has cited similar facts, and believes them to be due to inhibitory phenomena. W. VIGNAL.

5257. *Robert on the Constituents of Ergot.*—The pharmaceutical profession has been more or less in the dark regarding the constituents of ergot and the best mode of extracting them, as well as regarding their physiological action. The investigations of Robert, published in the *Archiv für Exper. Pathol. und Pharmacol.*, Nov. 1885, show that the chief physiological constituents are three in number: ergotic acid, sphacelic acid, and cornutine. The first is nearly identical with the sclerotic acid of Dragendorff. It does not produce uterine contraction or give rise to ergotism, but in the lower animals, at any rate, produces effects, when used hypodermically, similar to those of curare. In frogs, for instance, it produces anæsthesia and paresis. The second constituent, sphacelic acid, appears to be the most important. It is a resinous looking substance, destitute of nitrogen. Administered to man or to the lower animals, it produces powerful contraction of the smaller arteries, and it is this which causes the powerful uterine contraction characteristic of the ergot of rye. The third constituent, cornutine, is also a powerful constituent, capable of producing convulsions and death when given in large doses. On the uterus, its effects are different from those of sphacelic acid. It produces irregular or spasmodic contraction instead of the true uterine tetanus produced by the latter.

5258. *Lavrand on the Use of Antipyrin as a Hæmostatic in Epistaxis.*—In the *Jour. de Méd. et de Chir. Prat.* for November, 1885, Dr. Lavrand reports some cases which serve to demonstrate the powerful hæmostatic action of antipyrin in cases of epistaxis. It is, he says, certain and prompt in its effects, and is much superior to perchloride of iron, as it is colourless and does not coagulate the tissues like the latter substance. It is used in aqueous solution, of the strength of 1 to 30, applied on lint and inserted as far as possible into the nares. The nostril is then compressed with the fingers, so that the tampon soaked in the hæmostatic is brought into contact with a large extent of the mucous surface. By means of several applications thus made, M. Lavrand succeeded in arresting epistaxis, which had persisted in spite of plugging of the anterior and posterior nares.

PATHOLOGY.

RECENT PAPERS.

5259. UNKOVSKY, NIKOLAI M.—On the Results of Inoculation of Cultures of the Microbes found in Acuminated Condylomata. (*Vratch*, 1885, No. 46, p. 764.)

5260. URVITCH, BORIS O.—A Contribution to the Question of Passage of Micro-organisms from the Maternal into the Fœtal Circulation. (*St. Petersburg Inaugural Dissertation*, 1885, p. 77.)

5261. MANDELSTAMM, L. B.—On Morbid Histological Changes of the Skin in Scarlatina of Children. (*Meditz. Obozr.*, Fasc. xiv., 1885, pp. 102–7.)

5262. PUSHKAREFF, V. O.—On Pathology of Croupous Pneumonia. (*Ejenedelnaïa Klin. Gazeta*, April 21, 1885, pp. 264–7.)

5263. DÉJERINE.—An Unusual Cardiac Lesion. (*Bulletin de la Société de Biologie*, Jan. 1, 1886.)

5264. ROUX.—The Microbe of Measles of Pork. (*Bulletin de la Société de Biologie*, Nov. 27, 1885.)

5265. CHARRIN.—On the Action of Pyocyanin. (*Bulletin de la Société de Biologie*, Nov. 27. 1885.)

5266. ARLOING.—On the Viruses.

5267. DARIER.—On Broncho-pneumonia.

5268. VAILLARD AND PITRES.—Lesions of Peripheral Nerves in Typhoid Fever.

5269. HAYEM.—The Blood as a Means of Diagnosis in Rheumatism.

5270. GRÖN, K.—Sclerosis of the Coronary Artery of the Heart: Consecutive Myocarditis: Sudden Death. (*Norsk Magaz. for Lægevid.*, Series 3, Band xv.; and *Nord. Med. Arkiv*, Band xvii., Häft 2.)

5271. COLLIER.—A Case of Primary Malignant Disease of the Pleura. (*Lancet*, Nov., p. 945.)

5272. ROVIGHI, A.—The Salts of Potash in the Causation of Uræmia. (*La Rivista Clinica*, November 1885.)

5273. JOFFROY.—Tabetic Club-foot. (*Revue de Thér. Méd.-Chir.*, Jan. 15.)

5274. ROBIN.—Ruptures of the Heart. (*Revue de Thér. Méd.-Chir.*, Jan. 15.)

ART. 5259. *Unkovsky on Inoculation of the Microbes of Acuminated Condylomata.*—In the *Vratch*, 1885, No. 46, p. 764, Dr. Nikolai M. Unkovsky, of Moscow, states that he has succeeded in inoculating the microbes detected by him in acuminated condylomata (*see* the LONDON MEDICAL RECORD, Nov. 1885, p. 485) on rabbits, dogs, and sucking-pigs. Two experiments are given in detail. In one of them, a pure culture (a second generation) of the microbe was mixed with distilled water, and injected under the skin of the scrotum in a rabbit.

Slight redness and œdematous swelling of the skin appeared, which signs were, on the third day, followed by extensive desquamation. About the end of the third week, at the spot of the injection, which was marked by some infiltration, there began to grow two solid grey-reddish nodules, about the size of a hemp-seed, which gradually became elongated. Soon, a new crop of nodules appeared in the neighbourhood of the former, but the animal (which, meanwhile, became markedly restless, and constantly licked and nibbled the new growths, probably on account of itching) interrupted the experiment by destroying all the nodules. In another experiment, the same culture was injected under the abdominal skin in a sucking-pig. The immediate reactive phenomena were still slighter than in the first experiment. About three weeks later, there rose four wart-like rosy nodules at the spot of injection, which was slightly infiltrated. One of the nodules grew in all dimensions, and, by degrees, in about ten days or so, its surface became uneven and knobby, while the remaining warts gradually (in about two weeks) dwindled away. The large wart being excised, its microscopic structure proved identical with that of acuminated condylomata. Cultivation-experiments gave positive results, Unkovsky's microbe being obtained. Less successful were the attempts to inoculate the micro-organism on the mucous membranes of the mouth, nose, vagina, eye; in fact, the author succeeded in obtaining acuminated wart only once, in a sucking-pig, and even here the new growth appeared, properly speaking, not on the mucous membrane (of the vagina), but on the intermediate zone, between the membrane and skin. Why are the condylomata produced artificially so unstable? the author asks. Attempting to answer this question, he suggests that they disappear rapidly in consequence of a successful struggle of Metchnikoff's phagocytes (= leukocytes) against the pathogenic microbe introduced. A slight infiltration, as observed at the spot of the injection, is regarded by Dr. Unkovsky as a 'manifestation of an occult still struggle' of that kind. The author winds up his interesting article by the statement that he has undertaken similar experiments with malignant new growths. From two cases operated on by Professor Sklifosovsky, he took a piece of sarcoma and a piece of carcinoma, and placed them in nutritive gelatine. On the third day in the former case, and on the fifth in the latter, he obtained cultures of the respective microbes, the sarcomatous micro-organisms being entirely different from the carcinomatous; in fact, the author thinks he has succeeded in detecting the 'specific' microbes of each of the malignant growths, and promises in due time to publish the result of his inoculation-experiments.

5260. *Urvitch on the Transmission of Septic Microbes from the Mother to the Fœtus.*—In order to determine whether pathogenic bacteria can pass from the maternal circulation into the fœtal, Dr. Boris O. Urvitch, of Professor N. P. Ivanovsky's laboratory, induced in mice (*St. Petersburg Inaugural Dissertation*, 1885, p. 77) septicæmia after Koch's method, and inoculated the animal's blood into seven pregnant mice. All seven died within forty-eight hours; their blood, liver, spleen, and other organs, invariably containing swarms of Koch's bacillus of mouse-septicæmia. Meanwhile, no bacilli were found either in the blood or in the organs in any of thirty-two fœtuses obtained from these animals. Not a trace of microbes could be detected also, in any of the placentæ. Inoculation of the fœtal blood into healthy mice gave negative results, except in one case, in which death ensued from an accidental cause; while infection with the maternal blood invariably—in seventy cases—led to fatal septicæmia. Cultivation-experiments with the fœtal blood were fruitless, but those with the maternal blood—taken both before and after death—in every instance gave cultures presenting the shape of a lamp- or pipe-brush, and, on inoculation, bringing about typical septicæmia in mice. From all these experiments, Dr. Urvitch draws the conclusion that the bacilli of mouse-septicæmia never pass from the maternal circulation into the fœtal, the minute microbes being unable to penetrate through an animal membrane. [This conclusion harmonises with Mrs. Miropolskaia's experiments on unorganised solid particles (*see* the LONDON MEDICAL RECORD, March 1885, p. 112), and stands in seemingly hopeless conflict with Dr. Kübasoff's experiments on transmission of the bacillus of anthrax (*see* the LONDON MEDICAL RECORD, April 1885, p. 161), and *Russkaia Meditz.*, No. 3, 1885, p. 51), and with Dr. Albrecht's case of relapsing fever both in the mother and in a seven months' fœtus, with Obermeyer's spirilla in both (*see* the *St. Petersburg Med. Wochensch.*, No. 18, 1880.)—*Rep.*]

5261. *Mandelstamm on Histological Changes of the Skin in Scarlatina.*—In the *Meditz. Obozr.*, Fasc. xiv., 1885, p. 102, Dr. L. B. Mandelstamm, of Kazan, writes that he has microscopically examined numerous specimens of the skin taken from eight bodies of children who died in the course of scarlatina from collapse, intercurrent diphtheritis, nephritis, &c. The results obtained may be summarised thus. 1. In scarlatina, the skin undergoes important and deeply penetrating morbid changes (while Thomas and Bohn found only superficial cutaneous lesions). 2. The pathological process is of an inflammatory nature, the inflammation affecting both the horny layer and the true cutis. It manifests itself by considerable hyperæmia, œdema, and swelling of the connective tissue, as well as by infiltration of the skin with lymphoid elements. 3. The sweat-glands also undergo considerable alterations, their proper membrane being thickened, the epithelium of their ducts destroyed, the ducts filled up with homogeneous detritus, and the circumglandular tissue profusely infiltrated with leucocytes. 4. In none of the cases were either Tschamer's *verticillium candelabrum*, or any other micro-organisms, found.

5262. *Pushkareff on Friedländer's Microbe in Pneumonia and Cerebro-spinal Meningitis.*—In the *Ejenedelnaïa Klin. Gazeta*, April 21, 1885, p. 264, Dr. V. O. Pushkareff, of the Alexandrovsky Town Barrack Infirmary, in St. Petersburg, briefly describes his investigations, which seem to give a support to the opinion that all complications observed in the course of pneumonia are caused by the pneumococcus. Thus, he succeeded in finding Friedländer's cocci in purulent exudation in intercurrent pericarditis; then, in inflammatory products deposited on the endocardium in ulcerative endocarditis (while in a case of the latter, in a septicæmic patient, he could find only 'chain micrococcus,' and not pneumococcus). Recently, he examined pus taken from the cerebral meninges in five cases of pneumonia complicated with cerebro-spinal meningitis, and in all five found swarms of micrococci which microscopically were identical with Friedländer's pneumococcus.

They lay scattered, either isolated or grouped, in two, seldom in four, the capsule being very marked. Their cultivation gave microbes, which were, to all appearances, also identical with pneumococci. The microbes were absent from the fluid taken from the meninges in cases of simple pneumonia. It seems, therefore, that pneumonic cerebro-spinal meningitis is caused by pneumococcus. The author, however, as yet abstains from a decisive assertion, since there exists another micrococcus, which is, morphologically, closely similar to the pneumococcus, but nevertheless, induces in rabbits septicæmia, and not croupous pneumonia. Dr. Pushkareff promises to shortly publish his inoculation-experiments, which he has undertaken in order to settle the question in one or another way. V. IDELSON, M.D.

5263. *Déjerine on an Unusual Cardiac Lesion.*—M. Déjerine made a communication, on Dec. 26, to the Biological Society of Paris, concerning an unusual cardiac lesion causing sudden death in two patients convalescent from typhoid fever. There were no cardiac symptoms during life. At the necropsy there was an absence of lesion, but examination with the microscope showed that the myocardium was broken up. Each fragment was constituted by an isolated muscular cell. There was neither fatty, nor putrid, nor pigmentary degeneration. In both cases the lesion of the myocardium consisted in a separation of the intercellular cement of Eberth, which in a normal condition unites the cells of the cardiac fibres. The phenomenon is observed in patients in an asystolic condition. It is due to the fact that the intercellular cement is dissolved by sarcolactic acid, which is formed in great abundance. There were no bacilli in the myocardium. Landouzy and Renaut have described this lesion in the myocardium subsequent to pericarditis.

5264. *Roux on the Microbe of the Measles of Pork.*—M. Roux, at a recent meeting of the Biological Society (*Bulletin de la Société de Biologie*, Nov. 27, 1885), stated that the specific microbe of the disease known as the measles of pork is easily cultivated in peptonised broth; it dies at a temperature of 55° C. (131° Fahr.). Cultivation-fluids, from which air is carefully excluded during the process, preserve their virulent property a considerable length of time. Rabbits, mice, and small birds die if a little blood of spleen-pulp taken from a pig dead from measles be inoculated under the skin. The virulence of the virus is attenuated by exposing the cultivation-fluid for some time to the air at a temperature of 37° C. (98°·6 Fahr.); and with it pigs can be inoculated, and thus guaranteed against measles.

5265. *Charrin on the Action of Pyocyanin.*—At a recent meeting of the Paris Biological Society, M. Charrin stated that he had inoculated some rabbits with some drops of pyocyanin, and thus determined an affection which presents two clinical aspects, one acute, the other chronic. The principal morbid feature is the presence of albumen in the urine. This is followed by diarrhœa, retention of urine, ophthalmia, and paralysis. After inoculation, if portions of the spinal cord, or a small quantity of serum, be cultivated in broth, the presence of pyocyanin is detected. When the micrococci contained in the cultivation-fluid are removed by filtration, a very large quantity must be used in inoculations in order to provoke a pathological condition. Thus it may be concluded that the toxic principle of pyocyanin residing in the microbes manifests itself by provoking nephritis, enteritis, &c.

5266. *Arloing on the Viruses.*—M. Arloing, in a recent communication to the Académie des Sciences, stated that he had made experiments with four different principal viruses, blood from charbon (Toussaint), puerperal septicæmia, gangrenous septicæmia, and bovine symptomatic charbon. The results are as follows. The anaërobic virus of gangrenous septicæmia, of bovine emphysematous charbon (or Toussaint's charbon), when fresh, produces butyric fermentation in most of the fermentable sugars and in several neutral hydrocarbonaceous substances. Almost the same results are obtained with virus which has been recently dried. When the virus has been dried for some length of time, or when the pathogenic activity is diminished by the action of heat, these lose their zymotic action, but retain, nevertheless, their dangerous properties. Therefore the deduction follows that the pathogenic properties of virulent micro-organisms are to a certain degree separate from those of their zymotic properties. The latter disappear first, which indicates that they are contained in the mycelium and not in the spores.

5267. *Darier on Broncho-pneumonia.*—M. Darier, in his doctoral thesis, published last March, studied the question of broncho-pneumonia in diphtheria. At a recent meeting of the Biological Society, he read a description of the results of further researches. He has succeeded in isolating four different species of micro-organisms; the *staphylococcus pyogenes aureus*, the *staphylococcus pyogenes albus*, or a micro-organism closely resembling it, the *streptococcus pyogenes*, and a bacillus, said to be of diphtheria. The latter he met with nine times out of thirteen. The first three kinds are easily cultivated in veal broth, to which is added gelatine or agar-agar; the last species can only be cultivated on gelatinised serum. From a series of experiments made with these micro-organisms, obtained from pure cultivations, M. Darier concludes that the staphylococcus aureus and albus and the streptococcus pyogenes exercise an evident pyogenic action, and by their presence complicate the primary affection. They intensify the pulmonary inflammation determined by the bacillus of diphtheria; they also cause blood-poisoning, and are capable of provoking suppuration of the pulmonary lobes. It is possible that M. Darier has hit upon a general pathological fact, that when a morbid microbe is present in the human organism it opens the door to others, which add their action to that of the specific microbe.

5268. *Vaillard and Pitres on Lesions of Peripheral Nerves in Typhoid Fever.*—MM. Vaillard and Pitres have on former occasions demonstrated that, in typhoid fever, peripheral nerves may present diffused lesions resembling parenchymatous neuritis, breaking of the myeline proliferation of the nuclei of the inter-annular segments, and more or less complete atrophy of the nerve-fibres. These alterations have been observed in three patients who succumbed to typhoid fever; they all died without presenting any symptoms of nerve-lesions. At the necropsy of one, the cerebral meninges, spinal cord, and the roots of the spinal nerves, were healthy. The musculo-cutaneous nerve, the internal brachial, and the terminal branches given off by the ulnar nerve, presented lesions somewhat limited in superficial area, but extending deeply into the substance of the nerve. At the necropsy of the two others, the nerves of the lower limbs and some of one of the upper presented serious and extended lesions. In a fourth subject, the superficial nerves were attacked with parenchymatous neuritis.

5269. *Hayem on the Blood as a Means of Diagnosis in Rheumatism.*—M. Hayem has read at the Société Médicale des Hôpitaux a series of papers on his researches on the blood. In his clinical experience, he has observed that patients with rheumatic fever, whose blood is very fibrinous, and who have not localised inflammation, have always, sooner or later, had the characteristic articular inflammation. In rheumatic fever, the blood contains an increased quantity of fibrin before the articular inflammation appears. M. Hayem cited the following case. Last year a young man, aged 23, was admitted into his ward. He presented a very serious typhoid condition; he was delirious; his temperature rose to 41° C. (105°·8 Fahr.) in the evening. The thoracic and abdominal organs were healthy; the joints were neither swollen nor painful. There was very slight abdominal tympanites; the house-surgeon diagnosed a form of typhoid fever. M. Hayem examined the blood, and observed that the fibrin was greatly increased in quantity. This occurs only in pneumonia and rheumatism. Applications were made of water at 8° C. (17°·6 Fahr.); his temperature fell, and a few days later arthritis attacked the right knee, which became excessively swollen. This condition lasted a month, and left the joints partially ankylosed. The heart remained healthy. W. Vignal.

5270. *Grön on Sclerosis of the Coronary Artery and Consecutive Myocarditis.*—Dr. K. Grön reports in the *Norsk Magaz. for Lægevid.* the case of a young woman, aged 26, who had previously had no serious illness, and who, having felt indisposed one evening, fell dead out of bed on the following morning. At the necropsy, the right coronary artery was found completely obliterated, and reduced to a fibrous cord for its whole length. On microscopic examination, the inner layer was found remarkably thickened; it was distinctly separated from the middle coat by the internal elastic layer. The centre of the vessel was filled with a thrombus, in which organisation was commencing. The muscular structure of the left ventricle was somewhat pale; on section, it presented numerous fibrous foci, especially apparent in the upper half of the posterior wall, near the septum. The microscope here revealed, among the muscular fibres, numerous fibrils of connective tissue, arranged in fasciculi. There was also œdema of the lungs; and the trachea, from the bronchi to the larynx, was filled with a large quantity of clear white mucus. There were no emboli in the arteries of the lungs. Nothing else of importance was discovered. A. Henry, M.D.

5271. *Collier on a Case of Primary Malignant Disease of the Pleura.*—In the *Lancet*, November 1885, p. 945, Dr. J. Collier records the following case. A wheelwright, aged 43, was admitted into the Manchester Royal Infirmary in April 1885. On admission, he seemed much emaciated. Temperature and respiration were normal, pulse 72. He complained of great difficulty in swallowing. The right lung showed diminished expansion and tactile fremitus, with almost absolute dulness and distant feeble breathing over the lower half of the lung, back and front. Loud pleuritic friction could be heard at the base of the left lung, on the anterior aspect. The circumference of the right half of the thorax just below the nipple was decidedly more than that of the left side. One month later, the man had lost 1½ stone in weight. The dysphagia had slightly increased, the breathing became daily more embarrassed, and the physical signs above noted became more marked. The man gradually sank, and died seven weeks after admission. On *post mortem* examination there were found a few small white hard nodules. The right pleural cavity contained about two pints of encapsuled blood-tinged serous fluid. The pleura lining the lower half of the right side of the thorax, the diaphragm, and a small portion of the left pleura, were enormously thickened. It was smooth, hard, and on section like cartilage, being three-quarters of an inch in thickness in places. The œsophagus was so much pressed upon as it went through the diaphragm, that it only admitted the tip of the little finger. The glands in the posterior mediastinum and the deep abdominal glands were enlarged and hard. No traces of malignant growth were to be found elsewhere. The case was considered to be one of primary epithelial cancer of the pleura, as only the mediastinal and abdominal glands were affected. [*Vide* London Medical Record, 1883, p. 476.] Richard Neale, M.D.

5272. *Rovighi on the Salts of Potash in the Causation of Uræmia.*—The author, after reviewing the principal theories, ancient and modern, on the causation of uræmia—that the uræmic phenomena depend on retention of urea, or on its transformation in the blood into carbonate of ammonia (Frerichs), or on the retention in the blood of the salts of potash (Feltz and Ritter), or of certain ptomaines which normally exist in the urine (Bouchard, Lépine, &c.)—gives a long series of original researches which throw some light on the argument. From a first group of experiments on rabbits, in which salts of potash were injected hypodermically, it results that, while doses of 1½ grammes of chloride of potassium caused no symptoms beyond slight general depression and copious diuresis, doses of three to five grammes produced acceleration of respiration, slowing and irregularity of the heart, and paralysis of muscular force; then severe dyspnœa, and finally death—if the dose were so great that it could not be eliminated by the kidneys. From another and more important series of experiments, in which the renal vessels or ureters were ligatured, or the kidneys removed, and chloride of potassium then injected, the author comes to the following conclusions. 1. The course of the experimental uræmia caused in rabbits by any of these means is rapid, in proportion as the dose of chloride of potassium introduced after the suppression of the renal function is greater. 2. The same salt of potash kills in a few minutes, one hour and a half at the most, even in small doses, if the renal function have been suppressed from eight to twelve hours. 3. The aggravation of the course of the uræmia by this agent (chloride of potassium) shows itself by signs of alteration of the respiratory functions, retardation and irregularity of the heart's movements, general weakness of muscular force, lowering of temperature, never by the development of strong convulsive attacks. The author concludes that the causation of uræmia cannot be attributed to the salts of potash alone, as Feltz and Ritter maintain; but that to their retention in the organism are due the dyspnœa and depression of force, while they seem to bear no relation to the convulsive phenomena which often occur in uræmia; and, lastly, that it is illogical and contrary to clinical observation to exclude the influences exercised by

the retention of urea and other extractive principles.
G. D'Arcy Adams, M.D.

5273. *Joffroy on Tabetic Club-foot.*—Dr. Joffroy, at a recent meeting of the Société Médicale des Hôpitaux of Paris, reported a case of club-foot in consequence of tabes dorsalis, to which disease the patient ultimately succumbed, and demonstrated an anatomical preparation of this deformity (*Revue de Thérapeutique Médico-Chirurgicale*, of Jan. 15). Electric contractility had been preserved, but modified, in the muscles of the leg. Contractions were only produced by a much more powerful faradaic current than in the normal state, and galvanic contractility was likewise modified. Recovery from the degeneration in these cases is extremely rare. In a female patient, the dissection of whose club-foot Dr. Joffroy showed, degenerative atrophy of the long peronei muscles had been detected during life by electric exploration. The tibio-tarsal articulation and the ligaments were healthy. The abnormal position of the foot was due to the condition of the tendo Achillis. Both the soleus (internal gastrocnemius) and the long peroneus muscles were completely in the state of fatty degeneration. The other muscles were healthy, or only almost imperceptibly diseased. The presence of muscular changes in tabetic club-foot led Dr. Joffroy to refute the hypothesis of club-foot from atony or from muscular atrophy. In the present case, the atrophy of the long peroneus muscle permitted the anterior tibialis to elevate the inner border of the foot; and although the internal gastrocnemius was atrophied, the action of the external gastrocnemius muscle sufficed to produce the talipes equinus and the claw-like bent of the great toes. The frequency of tabetic club-foot in the majority of cases of ataxy of long standing, led to the opinion that muscular changes are common in this disease. In Dr. Joffroy's case, the anterior tibial and the musculo-cutaneous nerves had lost a great many of their nervous tubes, in the place of which only the empty sheaths or very thin tubules, probably regenerated nervous fibres, were found. It is undecided whether the neuritis in this case was primary, or consecutive to the injury of the nervous cells of the anterior horns of the spinal cord. Microscopic examination of these not having yet been made, this question remains still open.

5274. *Robin on Ruptures of the Heart.*—At a recent meeting of the Société Médicale des Hôpitaux of Paris, Dr. A. Robin made some remarks on ruptures of the heart (*Revue de Thérapeutique Médico-Chirurgicale*, Jan. 15). As is well known, ruptures of the heart only occur in more advanced age. They are brought about by sclerotic myocarditis of vascular origin, and cause sudden death, it being in most cases impossible to assign specific symptoms to this disease. Dr. Robin met successively with three cases of rupture of the left ventricle, which were highly interesting for several reasons. In every one of these three cases, the patients dropped down dead whilst apparently in perfect health, there not having been the slightest apprehension of disease of the heart. The *post mortem* examination proved in each case the presence of sclerotic myocarditis, a disease which had been latent during its development. It was further found that the ruptures did not take place from within outwards, but from without inwards, and that they formed slowly and progressively, and not suddenly. It seems that ruptures of the heart may enlarge by degrees, from the cases under Dr. Robin's observation, and from 60 per cent. of those published, in which death was preceded by some characteristic prognostics—viz., præcordial pain radiating to the left shoulder and arm, dyspnœa, anxiety, &c. These symptoms present themselves in the form of acute attacks, resembling those of angina pectoris. They have been erroneously explained by a stoppage of blood in the pericardium; but this cannot be the case, as there is generally a considerable interval between the commencement of the attacks of angina and death. Moreover, the auscultation during this interval remains negative, whilst the symptoms due to extravasation of blood in the pericardium are entirely different, as Robin had the opportunity of ascertaining in a case of rupture of the coronary artery, which took place whilst he was examining the patient, who was suddenly seized by a violent attack of orthopnœa and tumultuous palpitations. On auscultation, peculiar sounds, like those of surging waves, were perceived. Death ensued after a few hours. There is consequently no mistake possible between the symptoms of these two different injuries. In summing up, Dr. Robin wishes to draw attention to the following important points: 1. the latent state of the myocarditis; 2. the possibility of rupture from without inwards; 3. the symptoms specific to rupture of the heart; and 4, the difference of the symptoms of rupture of the heart and extravasation of blood in the pericardium.

Ferd. Adalb. Junker, M.D.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

RECENT PAPERS.

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5276. Huapalla, G.—Four Cases of Poisoning by Strychnine treated by Intravenous Injections of Chloral. (*La Cronica Médica Lima*, August 1885.)

5277. Morselli, Prof. E.—The Statistical Laws of Suicide. (*Giornale della Reale Società Italiana d'Igiene*, Nos. 4 and 5, 1885; and *La Rassegna di Scienze Med.*, January 1886.)

5278. Postik, Egor.—A Contribution to the Toxicology of Water-hemlock (*Cicuta virosa*) and the Etiology of Toxic Gastro-enteritis in Domestic Animals. (*St. Petersburg Inaugural Dissertation*, 1883, p. 31.)

5279. Javorsky, J. L.—On a Severe Case of Poisoning by Morphine, Cured by Atropine. (*Vratch*, No. 44, 1885, pp. 733-34.)

5280. Müller.—Poisoning by the External Use of Perchloride of Mercury. (*Centralbl. für Gynäkologie*, No. 32, 1885.)

5281. Evans.—Opium-poisoning through Mother's Milk. (*Brit. Med. Jour.*, December 1885, p. 1159.)

5282. Brieger.—Basic Products in the Common Mussel. (*Deutsche Med. Wochensch.*, No. 53, 1885.)

5283. Schilling.—Cucaine-poisoning and its Antidote. (*Aertzliches Intelligenz-blatt*, 1885, No. 52.)

5284. Plugge.—On the Detection of Strychnine and Strychnic Acid in Urine. (*Weekblad voor Pharm.*, and *Le Moniteur du Practicien*, Jan. 15.)

5285. Ryan, J. P.—A Case of Poisoning by Camphor. (*Australasian Med. Jour.*, Oct. 15, 1885.)

5286. Dixson, Dr. Craig.—Poisoning by Homœopathic Tincture of Bryonia. (*Australasian Med. Gazette*, October 1885.)

5287. MICHELSEN. — Homicide and Mutilation. (*Viertelj. für gerichtl. Med.*, Band xliii., p. 231.)

5288. EBERTZ.—The Lung-test in Infanticide. (*Viertelj. für gerichtl. Med.*, Band xliii., p. 241.)

5289. GARNIER AND LEBLOND.—Pseudo-hermaphroditism. (*Annales d'Hygiène Publique*, Ser. 3, Tome xiv., p. 285.)

5290. WINCKEL.—Alleged Malapraxis. (*Vierteljahrschrift für gerichtl. Med.*, Band xliii., p. 43.)

5291. MASCHKA.—Suffocation from Compression of Chest. (*Vierteljahrschrift für gerichtl. Med.*, Band xliii., p. 11.)

5292. ZALESKI. — Carbon Monoxide. (*Archiv für exper. Pathologie und Pharm.*, Band xx., pp. 34-39.)

5293. SECHEYRON.—Poisoning by Chloride of Zinc. (*Ann. d'Hygiène Publique*, Tome xiv., pp. 45 and 159.)

5294. STEINFELD.—Toxic Effects of Bismuth. (*Archiv für exper. Path. und. Pharm.*, Band xx., p. 40.)

5295. VON MASCHKA. — Poisoning by Phosphorus. (*Vierteljahrsch. für gerichtl. Med.*, Band xliii., p. 17.)

5296. VON LANGSDORFF.—Poisoning by Morphine. (*Viertelj. für gerichtl. Med.*, Band xliii., p. 212.)

5297. LAFON.—A Test for Codeine. (*Comptes rendus*, Tome c., p. 1543.)

5298. VON MASCHKA.—Poisoning by Nitro-benzol. (*Viertelj. für gerichtl. Med.*, Band xliii., p. 14.)

5299. SCHULZ AND PEIPER.—Coniine as an Antidote. (*Archiv für exper. Pathol. und Pharmak.*, Band xx., p. 149.)

5300. JUDKINS.—Morphia-poisoning in a Child aged Fifty Hours.—(*New York Med. Record*, Aug. 8.)

ART. 5275. *Stadfeldt on Hæmorrhage in the Great Cavities in New-born Children.*—In an article in the *Nord. Medicin. Arkiv*, Band xvii., Dr. Stadfeldt, of Copenhagen, discusses this subject, principally in its medico-legal aspects. His observations are based on an examination of the records of births and necropsies in the Maternity of the city for twenty years, during which about 25,000 births took place in the institution. Hæmorrhage (ecchymosis) of the lungs and pericardium, he says, are of frequent occurrence at birth; and, as they may have existed some time, great caution should be exercised in regarding them as indications of suppuration after birth. Hæmorrhage into the cranial cavity is liable to be regarded as a result of suffocation, but it is chiefly due to injury during labour. The child may live, especially when the hæmorrhage is confined to the surface of the brain; and, even when there is considerable hæmorrhage, the child may for some time after birth enjoy fairly good health. Referring to ruptures of the spinal column, and chiefly to hæmorrhage along the spine, especially in the neighbourhood of the kidneys, Dr. Stadfeldt records three cases in which there was extensive effusion of blood around the kidneys and the suprarenal capsules, without lesion of the vertebræ, and without any indication of the source of the bleeding. Blood was effused behind the peritoneum, over the whole extent of the diaphragm, as far as the pelvis. In the three cases the presentation was footling, and birth was effected with great difficulty. The hæmorrhage was probably produced during delivery, either by too great tension of the lumbar tissues, or by pressure with the thumbs, or by raising the body too much during the delivery of the upper limbs. A. HENRY, M.D.

5276. *Huapalla on Poisoning by Strychnine treated by Intravenous Injections of Chloral.*—Four men were poisoned by strychnine at a drinking bout; the first died almost instantaneously. The other three presented acute characteristic symptoms of poisoning by strychnine. Dr. Huapalla first administered an emetic of tartrated antimony, and then hypodermic injections of morphia. As soon as he could obtain some chloral, he gave to two of the sufferers an intravenous injection of 1 gramme of chloral in 1 gramme of water. To the third, in whom the symptoms were less severe, he gave an injection of 0·5 gramme. Four hours later, as the symptoms still continued, he injected in the first two patients 2 grammes more of chloral, and 1 gramme in the third; this was again repeated twice, at four hours' interval, before sleep was obtained, and the patients could be considered out of danger. Chloral was continued in small doses by the mouth for several days. All three patients made a good recovery.

5277. *Morselli on Statistical Laws of Suicide.*—In this paper, which appears in Nos. 4 and 5 of the *Giornale della Reale Società Italiana d'Igiene*, 1885, Professor Morselli examines the documents relating to the statistics of suicide which have appeared in the last six years—that is, since the publication of his great work on this subject. As a result of his studies, he is able to show that certain well-established laws exist with regard to suicide. Of his conclusions, perhaps the following are the most interesting. 1. Suicides are becoming more frequent, both in European and in American countries, and this is especially the case since 1871. 2. In Europe, the zone of maximum intensity of suicide crosses the Continent transversely; it presents two chief foci, round which the majority of cases group themselves. These are Saxony and the Isle of France; their populations, of Germanic race, pure or mixed with Celtic elements, afford the greatest number of suicides. 3. In all countries, most cases occur in the best seasons of the year, in dry and warm weather; fewest cases occur in cold and wet weather. Thus the maximum mean corresponds to June or May, the minimum to December. 4. As regards the religion of the victims, Protestantism affords the greatest number; then, in decreasing order, Roman Catholicism, Greek or Orthodox Catholicism, Judaism, Mahometanism, and Fetishism. 5. Large cities contribute a greater proportion of suicides than smaller towns, and these in their turn more than country districts. 6. Men are more prone to commit suicide than women, the proportion being 4 to 1. 7. The frequency of suicide increases regularly with age until old age is reached. Since the beginning of the century, suicide in adolescence and childhood has continued to increase in frequency at a constant rate throughout the whole of Europe. In this, as in other things, the female sex is the most precocious. 8. Matrimony diminishes the inclination to suicide in both sexes; widowhood and divorce lead to an extraordinary increase in the number of cases. 9. The agricultural and industrial classes show the least inclination to voluntary death; suicide is most frequent in the cultured classes and the liberal professions. In all countries, the largest quota of cases is furnished by the military among men, and by domestic servants among women. 10. Suicide by hanging is preferred by the Teutonic and Slavonic races, and generally prevails in winter and autumn, and in cities; death by drowning, on the other hand, is most frequent in southern countries and in the Latin races, and generally in spring and summer, and in the country. Suicide by hanging and by firearms tends everywhere to increase, so that it may be held s an effect of civilisation. 11. Men in the countries of Northern and Central Europe prefer to kill themselves by hanging; women, on the contrary, everywhere prefer drowning. Servants everywhere furnish the greatest number of deaths by poison, and soldiers almost invariably choose firearms. 12. With the development of intelligence and sensibility the more safe, rapid, and painless modes of death are more and more chosen. G. D'ARCY ADAMS, M.D.

5278. *Postik on the Toxicology of Water-hemlock.*—While investigating the causes of epidemic gastro-enteritis attacking cattle in certain localities in the Kaluga Government every year in May and June, Mr. Egor Postik (*St. Petersburg Inaugural Dissertation*, 1883, p. 31) has made the observation that all the pasture-grounds in question have one common feature—namely, their being poor in good grass and abundant in water-hemlock (*Cicuta virosa*, L.; Russian *vïokh* or *vekh*). All other possible causes being excluded, the author came to the conclusion that the said epidemic disease might depend upon the ingestion of this toxic plant. The author's supposition was confirmed by attentive clinical observations of thirty-three head of cattle suddenly attacked by gastro-enteritis, six of the cases ending fatally; then by the *post mortem* examination; and, lastly, by experiments on cows, calves, and sheep, to which fresh water-hemlock was given with their fodder. The author studied also experimentally the action of dried water-hemlock. The outcome of his observations and experiments is summarised as follows. 1. Water-hemlock belongs to the group of plants acting toxically on the system of domesticated animals. 2. By ingesting the young herb of water-hemlock, in the absence of better fodder, the animals—especially cattle—contract intense gastro-intestinal inflammation. 3. Being introduced into the digestive tracts, water-hemlock increases the fermentation of fodder-substances both in the stomach and in the bowels, and thus gives rise to enormous tympanites, leading to respiratory and circulatory disturbances, the animal dying from asphyxia. 4. The action of water-hemlock on the stomach and bowels consists only in inducing ordinary acute inflammation, no actual corrosive destruction of the tissues being ever observed. 5. Absence of any nervous symptoms points out either that Boehm's cicutotoxin is absent in water-hemlock in May and June, or that cicutotoxin does not act on the nervous system of herbivorous animals. 6. Dried water-hemlock loses its irritating action on the digestive tract of domesticated herbivorous animals.

5279. *Javorsky on Atropine in Poisoning by Morphine.*—In the *Vratch*, No. 44, 1885, p. 733, Dr. J. L. Javorsky, of Tashkent, records the case of a strongly built and generally healthy midwife, aged 33, who attempted to destroy herself by taking at 1 A.M. about 30 grains of acetate of morphine and half an ounce of tincture of opium, *Pharm. Rossicæ* (1 : 10). No nausea or vomiting occurred. She fell asleep and awoke about 8 A.M., looking very ill. When first seen by the author (at 9 A.M) she lay speechless in a comatose state, with irregular, slow, superficial breathing, extreme myosis, her jaws being firmly pressed together. A hypodermic injection of a fourth of a grain of apomorphine produced vomiting in fifteen minutes, after which the author succeeded in introducing into the patient's stomach about six ounces of strong coffee, with a large quantity of tannin. The patient's state, however, steadily grew worse. At 11 P.M. the author began to inject one-sixth of a grain of sulphate of atropine every fifteen or thirty minutes. Exactly one grain of the alkaloid was used up to 3 P.M., causing only a moderate mydriasis, but no improvement in the state of the patient, who lay now pulseless, breathing only five times a minute. In spite of the apparent hopelessness of the case, the author went on injecting atropine, alternating it now with injections of tincture of musk. And his energetic efforts were fully rewarded; about 9 P.M. the pulse became full, 90 a minute, and the breathing regular, 12 a minute. At 11 P.M. the patient became conscious and asked for drink. Having passed a quiet night, she rose on the next morning free from any danger, Tho whole amount of atropine injected from 11 A.M. till 9 P.M. was 2·03 grains; that of tincture of musk, about 2 drachms. Dr. Javorsky thinks that his case strongly supports the theory of an antagonism between atropine and morphine (as upheld by Binz, Bezold, Henbach, &c., against Onsum, Camus, Bois, Knapstein, Dokhman, &c.). [Dr. R. Neale's *Medical Digest*, sect. 376 : 5, contains a series of cases of morphine-poisoning cured by atropine. In the *Voënno-Meditz. Jürnal*, August 1877, Dr. Dobrokhotoff describes recovery after poisoning by 10 grains of morphine dissolved in five ounces of bitter almond-water; the patient, a weak woman, aged 24, was treated by atropine, administered both hypodermically and internally (altogether 2-5 grains), tincture of belladonna in thirty-drop doses, powder of musk in one-gramme doses, &c. In the *Vratch. Vedomosti*, No. 27, 1883, p. 4162, Dr. H. Rodzewicz publishes a recovery after 8 grains of hydrochlorate of morphine, the treatment consisting in enemata of coffee-infusion, friction, electricity, wine, &c.—*Rep.*]

V. IDELSON, M.D.

5280. *Müller on a Case of Poisoning by the External Use of Perchloride of Mercury.*—In the *Centralbl. für Gynäkologie* (No. 32, 1885), Dr. Müller, of Bern, has described a case of hysterectomy for carcinoma uteri, in which a 1 in 1,000 solution of perchloride of mercury had been used for the disinfection of the operator's hands; the sponges had been dipped in a 1 in 2,000 solution, which had been diluted with an equal quantity of water for washing the wound. Two days after the operation, the patient was seized with diarrhœa and albuminuria; the stools were mixed with blood, and the quantity of urine passed was very small. Death ensued on the third day, and the *post mortem* examination revealed the existence of ulcerations in the colon. There was no nephritis. Dr. Müller thinks that a 1 in 1,000 solution is sufficient for the hands; for the disinfection of the sponges and of the wound itself, solutions containing 1 part of corrosive sublimate in 4,000 to 8,000 of water respectively ought to be used. J. S. KESER, M.D.

5281. *Evans on Opium-Poisoning through Mother's Milk.*—In the *Brit. Med. Jour.*, December 1885, p. 1159, Mr. W. T. Evans records the case of a lady who was delivered of a fine healthy child on Nov. 17. In consequence of severe after-pains, the patient was given one drachm of liquor opii sedativus, in doses of about fifteen minims every four hours. Next day patient took twenty minims of liquor opii every four hours, without producing much effect. On the third day the patient had a fair amount of sleep, but was not drowsy; during the night the milk came, and the baby was put to the breast. About three hours afterwards, the nurse noticed that the baby was very drowsy, and sent for Mr. Evans. In spite of every kind of treatment, the child died in a few hours from the effects of opium communicated to it by its mother's milk. In a subsequent number, a correspondent throws doubts upon the above case, from the fact that a very similar instance occurred in his own practice, which at first he attributed to the influence of the mother's milk, but later on it was proved that the nurse had poisoned the child by an opiate. RICHARD NEALE, M.D.

5282. *Brieger on Basic Products in the Common Mussel.*—The death of several persons at Wilhelmshaven, caused by eating mussels (*Mytilus edulis*) has attracted much attention in medical circles in Germany. The *Deutsche Med. Wochensch.* has had some articles on the subject, and amongst the rest gives an address delivered by Professor Brieger before the Verein für Innere Medicin on Dec. 21, 1885. Allusion is first made to Virchow's declaration that the poison of the mussel must be an alkaloid, because alcohol absorbs it. Wolff and Salkowski assert that it is to be sought exclusively in the liver. The discovery of Salkowski, that by being boiled with alkaline carbonate the poison is neutralised, may lead to rendering mussels innocuous. By a very complicated process, explained by him in his address, Dr. Brieger found, besides several innocuous principles, a substance in combination with perchloride of gold, which he considers to be the specific poison of mussels. Of this he says that the microscopic appearance was cubiform, and its composition was $C_6H_{16}NO_2AuCl_4$. This bichloride of gold was fusible at 182° C. The base liberated by potash had a disagreeable odour, which, however, soon disappeared on exposure to the air, and with it the poison. On being distilled with potash, this poisonous base is neutralised, and there remains a harmless product of an aromatic odour. Brieger calls this poisonous base, as being the medium of the specific poison of mussels, mytilotoxin ($C_6H_{15}NO_2$). He also found an oil which gradually solidified in the exsiccator without crystallising. Nor does its hydrochloric salt crystallise. Injected, the latter produces a peculiar rigor, quick breathing, dilatation of the pupils, and convulsive movements of the extremities. The animal falls on one side, gasps, and dies. These necessarily incomplete observations Professor Brieger hopes soon to supplement, after further experiments. The difficulty of separating the liver prevented him from determining whether it is the only seat of the poison.

JOHN ELLIOTT.

5283. *Schilling on Cucaine-Poisoning and its Antidote.*—Dr. Fr. Schilling describes a case of cucaine-poisoning, coming on after the drug has been locally applied for the extraction of a tooth. The patient was a woman, aged 28, in the seventh month of pregnancy. The injection of two drops of a 20 per cent. solution of cucaine caused sufficient anæsthesia for the extraction of the tooth. As the patient was leaving the room, the dentist noticed that her eyes were fixed, and a few minutes after making her sit down she became unconscious, reacting to no stimulus. The injection of ether had no result. During the unconscious state, which lasted over half an hour, the breathing was quiet, the pulse 86, and regular; the eyes were wide open, with medium-sized pupils, and the conjunctival reflex had disappeared. The patient could not be roused by shouting, but after a time began to call her husband by name. Dr. Schilling, considering that the condition was due to anæmia of the brain, advised the inhalation of amyl nitrite. The first inhalation seemed to rouse her, and after the second she could answer questions hesitatingly, but correctly. She was well in a short time. As the author states, it is a question whether the symptoms were not due to shock, as the patient was pregnant. He, however, considers this an improbable explanation.

SIDNEY MARTIN, M.D.

5284. *Plugge on the Detection of Strychnine and Strychnic Acid in Urine.*—Prof. Plugge, in the *Weekblad voor Pharm.* (reproduced in *Le Moniteur du Practicien*, Jan. 15), declares that the most sensitive test for strychnine is that of Sonnenschein, by which $\frac{1}{60000}$ of a milligramme of this alkaloid can be detected. Strychnine can be found in the urine two hours after a dose of one milligramme ($\frac{1}{60}$ of a grain) of the sulphate, and traces of it even on the eighth day; which proves how very slowly its absorption takes place, and how carefully one ought to guard against the danger of poisoning, in consequence of accumulation in the organism of repeated doses. In order to test the urine for the presence of strychnine, it is to be treated with chloroform, which takes up the acid and sets it free again by evaporation. The most sensitive and characteristic reagent is an acid solution of sulphate of cerium, by which $\frac{1}{100}$ of a milligramme of strychnic acid will still be detected. FERD. ADALB. JUNKER, M.D.

5285. *Ryan on a Case of Poisoning by Camphor.*—The patient was a young woman who was brought to the author in a semi-unconscious condition, smelling strongly of camphor, of which it transpired she had eaten a piece, about as big as an almond, half an hour before. She could be roused with some difficulty, and could then reply rationally but in a hesitating manner. The first effect of the drug was to produce a feeling of giddiness, which culminated in a quasi-fainting fit. On the application of restoratives, she rallied to some extent, and began to talk incoherently. Her face was flushed, and had a peculiar expression. She then gradually became stupid, and finally almost unconscious. Directly she was seen, an emetic of 20 grains of sulphate of zinc was given, which produced free vomiting, the vomited matter smelling strongly of camphor. A quarter of an hour later, she was given strong coffee, with 30 minims of aromatic spirits of ammonia. Her breathing and circulation then rapidly improved; her face, from being dusky and flushed, became somewhat pale; and she sank into a natural slumber. Half an hour later, another dose of coffee and ammonia was administered, and in another hour she was well enough to be removed home. The case is interesting from the severity of the symptoms following so small a dose, for the piece taken (about the size of an almond) would not weigh over 20 grains, and not much of that could, seeing its slight solubility, have found its way into the system.

5286. *Dixson on Poisoning by Bryonia.*—The patient, a man aged 63, had taken by mistake about eighty drops of the homœopathic tincture of bryonia. Two hours later, having been quite calm and comfortable in the interim, he felt an uncomfortable, tickling, warm sensation in his throat, and then began to vomit. Within a few minutes after the supervention of the vomiting, he became oblivious of his surroundings, having a feeling as if a piece of gauze had been drawn over his face. He then remembered nothing more, until he heard Dr. Dixson calling him by a wrong name on his arrival. His pulse was imperceptible at the wrist; he was drowsy, livid, and covered with a cold perspiration. There was no diarrhœa, nor did he complain of any pain. The patient was decidedly delirious, but could be induced to give some kind of answer to a question. After persevering in the use of strong stimulants, coffee, ammonia, &c., with warmth to the extremities, the patient recovered in about an hour and a half.

5287. *Michelsen on Homicide and Mutilation.*—Michelsen (Waldenburg) (*Viertelj. für gerichtl. Med.*, Band xliii.) gives the details of an interesting and peculiar case of the murder of a young girl, 3 years old. The child suddenly disappeared from her home; and her remains, much mutilated, were found two and a half weeks afterwards in an adjoining field. Another girl, 10 years old, then confessed to having felled the child to the ground with a rake in a neighbouring potato-field. She went home and informed her own mother of what she had done, at whose suggestion she returned to the field, placed the child in a sack above some potatoes, and brought the sack on a wheelbarrow to her mother's house. The girl alleged that, when her mother opened the sack, the child regained consciousness and screamed, and that her mother then took the child to a cellar beneath and murdered it. This the mother altogether denied. Michelsen gave it as his opinion, after a necropsy, that the child had been suffocated by earth pushed into its mouth and throat, and that the body had been afterwards partly roasted and hewn into several pieces. The earth in the child's throat and trachea had the same composition, chemical and otherwise, as that of the potato-field, and was different from the earth taken from the cellar-floor. The mother was, however, convicted of murder and sentenced to death, the sentence being afterwards commuted to penal servitude for life. She then confessed that her daughter's statement was true. The latter had brought the child as described to the house, with an ugly gash on its head. To conceal the daughter's crime, she resolved to kill the child outright. She therefore took it to the cellar and stuffed its mouth with the loose earth lying beside the potatoes—therefore, earth from the potato-field. Here it lay for some days, when, as it began to decompose and smell, she placed the corpse over a fire in order to burn it. This method of destruction proving imperfect, the body was hacked to pieces, and the main portion of it carried to the field in which it was eventually found.

5288. *Ebertz on the Lung-Test in Infanticide.*—Ebertz (*Viertelj. für gerichtl. Med.*, Band xliii.) describes and discusses at considerable length a case of infanticide, where the usual lung-test of live-birth failed, although, from the confession of the mother, it was certain that the child had lived for some time (the time is not definitely stated) after birth. The mother admitted having killed the child by thrusting two pieces of rag into its mouth, and, fearing that this was not sufficient, by afterwards driving the points of scissors into its neck and cutting the throat. The body was then thrown, wrapped in a cloth, into water, where it was found four weeks later. The mother stated that the child neither moved nor cried after birth, although she knew that it was alive from feeling the pulse in the arms. Ebertz believes the woman's account to be correct, although the usual evidences of live-birth at the necropsy were absent; no fragment of the lungs floated in water. The rags were found stuffed into the throat, and the injury to the neck was extensive, embracing the trachea, but leaving the larger blood-vessels intact. The umbilical cord had been torn through, and was not tied. Ebertz is of opinion that the child was born in the condition of so-called apparent death — frequently observed by accoucheurs—and thus never breathed, although alive; or that it had breathed very lightly, but the lung had at death returned to an atelectatic condition. The latter view was suggested by a rounding of the edges of the lungs, and it is rendered possible by the comparatively recent experiments of Ungar, which go to prove that a new-born child may breathe for some time after birth, and yet its lungs may become after death completely atelectatic. The woman was convicted, and sentenced to one and a-half year's imprisonment.

5289. *Garnier and Leblond on Pseudo-hermaphroditism.*—Garnier and Leblond contribute each a paper (*Annales d'Hygiène Publique*, Ser. 3, Tome xiv., p. 285) on pseudo-hermaphroditism, as an impediment to the declaration of the sex of a new-born child. It appears that in France the sex of a child must be declared within three days after its birth, and it cannot in the course of its life enjoy the rights of other than the declared sex, without an appeal to a legal tribunal. The authors point out the injustice of this law in cases of pseudo-hermaphrodites, who at puberty find themselves of a sex opposite to that which had been declared; and Garnier gives, by way of illustration, an account of a case which has recently come under his notice. Both authors strongly urge that, as there is sometimes much difficulty in correctly determining the sex at birth, it should be open to the accoucheur, in such cases, to report the sex as undetermined or doubtful, leaving the final declaration of sex to a later and more favourable period.

5290. *Winckel on Alleged Malapraxis.*—Dr. Winckel, of Mülheim, in the *Vierteljahrschrift für gerichtl. Med.*, Band xliii., gives an account of a highly interesting case of alleged malapraxis. A Dr. K. attended a woman in childbirth, and was said by his negligence to have caused the death of both mother and child. Apparently, without sufficient reason, he had given the woman repeated small doses of morphine, and, finally, chloroform. While she was under the influence of the latter, he made an examination of the uterus by introducing two fingers through the os uteri, which he did with difficulty, owing to the os having as yet dilated but little. While his fingers were still within the os, a gush of blood took place, and, believing and alleging that he had to deal with a case of placenta prævia, he pushed his fingers into the substance of the posterior uterine wall, under the impression that he was separating the placenta. He then turned the child, and endeavoured to extract it by the feet. By the time the whole of the child had been removed, except the head, the woman was observed to have ceased breathing. Leaving the child, he at once began to practise artificial respiration on the mother, but without effect. She was dead, as was also the child, when he completed its extraction. At the necropsy, large lacerations were found in the cervix uteri; and the seat of the placenta was clearly ascertained to have been on the anterior wall of the uterus, some inches above the os uteri. The accoucheur attributed the death to hæmorrhage. This was, however, disproved by the state of the internal organs. The medical jurists decided that the woman had died, probably from chloroform-poisoning, aided by nervous shock from severe laceration of the uterus, and attached the whole blame to the accoucheur. Although their opinion was confirmed by the Royal Rhenish Medicinal-Collegium, the charge against him was departed from by the Crown. Prof. Veit, of Bonn, to whom the above case seems to have been referred by the Crown, reviews Dr. Winckel's conclusions in the following number of the *Vierteljahrschrift*, and states the reasons why he advised the Crown to depart from the charge. Although he admits that the accoucheur exhibited carelessness and want of presence of mind, yet he holds that these were not such as to warrant his being subjected to a criminal charge. He sets aside the probability of death from chloroform, and attributes the bleeding, not to laceration of the neck of the uterus, but to early detachment of an anomalous and deeply seated placenta. A partial separation of the lining membrane of the uterus from the posterior wall at its lower part, which Winckel believed to have been caused by the fingers of the accoucheur in his efforts to separate the supposed placenta, Veit considers to have been really due to the action of the child's head. Winckel, however, points out, in a postscript to Veit's paper, that the detachment was from below upward, not from above downward. Veit sets aside death from nervous shock as meaningless and improbable, and suggests that death was not unlikely caused by the entrance of air into the uterine veins, through the lacerated sinuses of the placenta.

5291. *Von Maschka on Suffocation from Compression of Chest.*—Von Maschka (*Vierteljahrschrift für gerichtl. Med.*, Band xliii.) details a case where it was clearly demonstrated, from the condition of the internal organs after death, that a man, over whom a pile of heavy planks of wood collapsed, had died, not from any direct mechanical injury, although one thigh was broken, but from suffocation due to compression of the chest and consequent interference with the respiration. There was no external injury of the chest-wall. In this connection, he recalls a similar case in his own experience, where a boy was suffocated by a bag of meal lying across his chest, without any external injury.

5292. *Zaleski on Carbon Monoxide.*—After experiments on cats with carbon monoxide gas, Zaleski comes to the conclusion that when the gas is injected into the peritoneal cavity it acts poisonously, though not rapidly; that it is absorbed by the blood, though more slowly than from the lungs; that it appears unaltered in great part, if not entirely, in the expired air; that it is not detectable in the expired air, if, instead of the gas itself, carbonic oxide blood have been injected. Zaleski's results are contrary to those of Kreis, who found no carbon monoxide in the expired air, after the gas had been injected into the peritoneal cavity or subcutaneously. Zaleski's experiments have an important bearing on the elimination of the gas in ordinary cases of poisoning by it, since it is disputed by many that the gas is excreted unoxidised. These allege that the unoxidised gas actually found in the pulmonary air is merely a portion of that which has never been absorbed by the lungs, in ordinary inhalation experiments.

5293. *Secheyron on Poisoning by Zinc Chloride.*—Secheyron (*Ann. d'Hygiène Publique*, Tome xiv., pp. 45 and 159) gives a comprehensive and critical account of all that is known with regard to poisoning by chloride of zinc, adding the details of a case of his own. Its action is generally that of a powerful irritant and escharotic, causing death sometimes very quickly, sometimes slowly from secondary effects, rarely resulting in a speedy convalescence; the secondary effects, erosion and contractures of the alimentary tract, often continuing for months. In two out of twenty-one recorded cases it was taken suicidally, in the others by accident, the solution being mistaken for vinegar, gin, mineral water, &c. In his own case, a trace of zinc was detected in the urine evacuated sixteen days after the taking of the poison (about 1 oz. of the chloride). A bibliographical index is appended.

5294. *Steinfeld on the Toxic Effects of Bismuth.*—Steinfeld (*Archiv für Exper. Path. und Pharm.*, Band xx., p. 40) contributes a long paper on the toxic effects of the salts of bismuth. They approach in their action the salts of nickel and cobalt. The paper has no immediate interest for the practical medical jurist. The bismuth was administered in the form of the soluble double citrate of bismuth and soda, and was in every case injected into the circulation or subcutaneously. The bismuth is fairly rapidly excreted, especially through the kidneys, so that after ten to fifteen hours it is not possible to detect the metal in the urine or blood, although it is still present in the intestines, through which (mainly the large intestine) it is also excreted. It is not excreted by the liver or pancreas.

5295. *Von Maschka on a Case of Poisoning by Phosphorus.*—Von Maschka (*Viertelj. für gerichtl. Med.*, Band xliii., p. 17) describes the case of a child which had been born prematurely at the eighth month, suffering from spina bifida, with the usual serous tumour towards the base of the spine. The tumour ulcerated and burst shortly after birth. The child remained ill and emaciated until its death, three months after birth. The mother, who was unmarried, confessed that some hours previously to its death she had given to her child the heads of three matches, with the object of destroying it. Her statement was confirmed by the discovery of a trace of phosphorus in the contents of the alimentary canal. The question which Von Maschka had to decide was whether the phosphorus was the sole cause of death, or whether, its quantity being so small, it had merely hastened the death of a dying child. He gave the latter as his opinion, adding that he believed it unlikely that so small a quantity of phosphorus would have caused the death of a healthy child. The mucous membrane of the alimentary canal was in part reddened and slightly eroded.

5296. *Von Langsdorff on Poisoning by Morphine.*—Von Langsdorff (*Viertelj. für gerichtl. Med.*, Band xliii., p. 212) describes a case of poisoning by morphine, in which the poison had been accidentally supplied by a quack apothecary in place of quinine. The author's main object is to insist upon a very thorough carrying out of the laws relating to the sale of poisonous drugs. It seems that the apothecary had been convicted ten times within nine years of illegal trafficking in drugs, and apparently all to no purpose. It may be useful to call attention to a test for morphine, which was employed in this case, and which has been practised for some years in Germany, although, to judge from reports of cases and from works on toxicology, it seems to be little employed in England. Max Scheid (Freiburg), who used it in the present case, believes it to be much the most reliable test for morphine in the presence of organic matter; and Selmi, an eminent authority, attached equal importance to it in a recent case. It is known as Pellagri's test, and is done in the following manner. Dissolve the dried morphine in a little concentrated hydrochloric acid, adding a few drops of strong sulphuric acid; evaporate to dryness, and heat the residue to 100° to 200° C.; a purple colour is obtained, which is easily recognisable in the presence of other organic matter. Now add a little more hydrochloric acid, and neutralise with bicarbonate of soda, and the fluid assumes a cherry-red tint. With this, mix a few drops of a concentrated solution of iodine in hydriodic acid; the colour of the fluid now changes to green. If this fluid be shaken with ether, a purple coloured solution is obtained. It is possible by this test to detect $\frac{1}{100000}$ of a milligramme of morphine. Codeine is the only other alkaloid which yields the same series of reactions, but it can be readily separated, previously to applying the test, by dissolving it in ether, in which morphine is not soluble. A large number of cases have been reported of late, in which a poison has been dispensed by a chemist instead of something else. In two of these—one in Hoboken, New Jersey, the other in Cairo, Illinois—the same mistake was made as in Langsdorff's case, and with fatal result to three persons. In another case (Philadelphia) tartar emetic was supplied instead of Rochelle salt; in another (New York) strychnine was substituted for monobromide of camphor; and in another (Greenock) nux vomica powder was given instead of liquorice powder.

5297. *Lafon on a Test for Codeine.*—P. Lafon (*Comptes rendus*, Tome c., p. 1543), describes a new and satisfactory test for codeine. If a trace of codeine be mixed with a solution of 1 gramme of ammonium selenite in 20 cubic centimètres of sulphuric acid, a beautiful green colour is obtained, which gradually changes by oxidation to reddish brown; 0·1 milligramme of codeine can be detected in this way. The reaction is not yielded by any other active principle—alkaloid or glucoside—except morphine.

5298. *Von Maschka on Poisoning by Nitro-benzol.*—Von Maschka relates a case of this not very rare form of poisoning, and gives a minute description of the *post mortem* appearances. The only interesting circumstances are that the dose of the poison was small (4 to 5 grammes, or fully 1 drachm); that the poisonous symptoms did not set in until after some hours, and that, although the blood had an odour of nitro-benzol, it exhibited the spectrum of oxyhæmoglobin, without the least trace of an absorption band on the red, as described by Lewin and Starkow.

5299. *Schulz and Peiper on Coniine as an Antidote.*—The authors, on the basis of a series of experiments on lower animals, recommend the hydrobromate of coniine as an antidote to poisoning by brucine and other tetanising alkaloids, and generally assign to it the place hitherto held by curare, giving a distinct preference to coniine.

MATTHEW HAY, M.D.

5300. *Judkins on Morphia-poisoning in an Infant.*—Dr. William Judkins, of Cincinnati, reports (*New York Med. Record*, Aug. 8) a case of morphia-poisoning in an infant aged fifty hours, where by mistake a quarter of a grain of morphia in solution was given (an eighth part of a grain was given in a teaspoonful of water, for supposed colic; the first dose not having the desired effect, it was repeated in an hour). When he was summoned, two hours after the first dose was taken, the child was cyanotic, breathing only three times in the minute, and very feebly; the pulse was barely perceptible. Immersions in hot water were at once commenced, and whisky given hypodermically in the gastrocnemius. Strong black coffee was also administered by the mouth and anus. After two hours' constant work, respirations increased in frequency and the heart's action became stronger. Recovery was final, and, ten weeks after the accident, the child was well and bright. The catheter had to be used several times in the first twenty-four hours, and three abscesses were opened that were produced by the use of the hypodermic needle.

OPHTHALMOLOGY.

RECENT PAPERS.

5301. GERMANN, TH.—The State of Refraction in Infancy and before School Age. (*Archiv für Ophthalm.*, Band xxxi., Heft 2, p. 122.)

5302. EINTHOVEN.—The Stereoscopic Effect produced by Objects of Different Colours. (*Archiv für Ophthalm.*, Band xxxi., Heft 3, p. 19.)

5303. MAYERHAUSEN.—A very Unusual Form of Persistent Pupillary Membrane. (*Klin. Monatsbl. für Augenheilk.*, Band xxiv., p. 17.)

5304. DANTZIGER.—Massage in the Treatment of Corneal Opacities. (*Archiv für Ophthalm.*, Band xxxi., Heft 3, p. 189.)

5305. BAEUMLER.—A Case of Alveolar Sarcoma of the Orbit affecting the Globe Secondarily. (*Klin. Monatsbl. für Augenheilk.*, Band xxiv., p. 5.)

5306. HIRSCHBERG.—Two Cases of Embolism of the Retina. (*Centralbl. für Prakt. Augenheilk.*, 1885, p. 853.)

5307. ANCKE.—One Hundred Cases of Diffuse Interstitial Keratitis. (*Centralbl. für Prakt. Augenheilk.*, 1885, p. 360.)

5308. SAMELSOHN.—Absorption of an Eyelash in the Anterior Chamber. (*Centralbl. für Prakt. Augenheilk.*, 1885, p. 363.)

5309. WILLIAMS, R.—Cysticercus of the Anterior Chamber. (*Lancet*, Jan. 16, 1886, p. 102.)

5310. WIDMARK.—Micro-organisms in Dacryocystitis, Hypopyon-keratitis, and Blepharo-adenitis. (Stockholm, 1885.)

5311. SATTLER.—The Micro-organisms contained in Pus from the Lacrymal Sac. (*Bericht der Ophthal. Gesell.*, Heidelberg, 1885.)

5312. ULRICH, G.—Tubercle-bacilli in the Conjunctiva. (*Centralbl. für Prakt. Augenheilk.*, 1885, p. 359.)

5313. SOLOVEITCHIK, FABIAN L.—On a Case of Considerable Improvement of Corneal Opacity under the Influence of Jequirity Seeds. (*Proceedings of the Caucasian Medical Society*, No. 12, 1885, pp. 287–88.)

5314. SMIRNOFF, P. A.—On Jequirity or Abrus Precatorius. (*Voĕnno-Sanitarnoĕ Delo*, No. 30, 1885, p. 325.)

5315. TEPLIASHIN, A. P.—On Cataract from Ergotism. (*Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 23·4, 1885, p. 345.)

5316. BRAILEY.—Stretching of the Supratrochlear Nerve. (*Brit. Med. Jour.*, October, p. 688.)

5317. JESSOP.—The combined Action of Cucaine and Atropine in Iritis. (*Lancet*, October, p. 659.)

5318. TERRIER, CHIBRET, and ROHMER.—On Eye-Grafting.

5319. GALEZOWSKI.—On Pelletierine.

5320. AGUILAR Y BLANCH.—Cholera and Neuro-paralytic Keratitis. (*La Cronica Medica*, and *El Siglo Medico.*)

ART. 5301. *Germann on Refraction in Infancy and before School Age.*—The author examined the refraction in 110 children (220 eyes), whose ages did not exceed eighty days. All the eyes examined, and in thirty cases the observer's eye, were atropised. Hypermetropia was found in all, and the average amount in the whole was 4·84 dioptres; but there was a marked difference in the amount of hypermetropia in the first and second months, the average being 5·37 dioptres in the first and 3·3 dioptres in the second. In the first month hypermetropia, ranging from 4 to 8 dioptres, was the most frequent (50 per cent.), while in the second month 1 to 4 dioptres was the amount which was most common (65 per cent.). The author also examined 66 children (132 eyes), of ages ranging from 18 months to 10 years, who had not learnt to read. Of these 89 per cent. were hypermetropic, 7 per cent. emmetropic, and 3 per cent. myopic. The amount of the hypermetropia in these also showed a marked diminution, the average being 2·27 dioptres. The author concludes by enunciating the following propositions. 1. The physiological condition of the human eye is hypermetropia. 2. The eyes of new-born infants are hypermetropic to a high degree. 3. There takes place with growth an increase of refraction.

5302. *Einthoven on the Stereoscopic Effect of Objects of Different Colours.*—The author discusses the explanation of the fact that, when objects of different colours, lying on the same plane, are looked at, those of one colour often appear to be nearer the observer than those of the other. Thus, when red and blue letters are looked at, the red appear to be the nearer. The explanation given by Donders of this and analogous phenomena, was that, as a greater effort of accommodation is necessary in order that the red letters may be accurately focussed, the mental impression is produced that the objects are nearer. The author found that the phenomenon, clearly visible when both eyes were open, disappeared and reappeared as one was covered or exposed. With prolonged monocular fixation, the letters appeared to lie on the same plane, but the red appeared to come forward directly one eye was covered. The author explains the phenomenon by the asymmetry of the eye, or by the presence of the angle a—the angle between the optic and visual axes. If the eye were perfectly symmetrical—*i.e.* if the visual axis coincided with the optic—when the eye was accommodated for a point of blue light, a point of red light would form a circle of diffusion on the retina, having the focus of the blue rays in its *centre*. But since the visual axis cuts the pupil, not in its centre, but to the nasal side, the diffusion-image formed by the red rays will be displaced towards the temporal side; for the image of the blue point will of course be at the point where the visual axis cuts the retina. But, as more of the pupil lies on the temporal side of the visual axis than on the nasal, so in the diffusion-circle also, which is in a sense the image of the pupil, more will lie to the temporal side of the blue point than to the nasal. The red image being in each eye displaced towards the temporal side, the stereoscopic effect of a nearer object is produced.

5303. *Mayerhausen on a very Unusual Form of Persistent Pupillary Membrane.*—The child whose case is described by Dr. G. Mayerhausen, when seen, was 5 months old, and the condition had been noticed by the mother two months before. It was said never to have any inflammation of the eyes, and there were circumstances that accounted for the mother not having sooner noticed the peculiarity of the pupils. The child's left eye and the mother's eyes were normal. In the right eye, the iris was of blue-grey colour; its structure appeared to be quite normal, and the radiating striæ were very regular. Attached to the upper two-thirds of the circulus minor was a membrane having the colour of the iris, but its central part somewhat darker than its periphery. To the naked eye, it appeared structureless. Its periphery had the appearance of being directly continuous with the iris; its outline presented prominences and depressions which dovetailed into those of the circulus minor. Its lower free border was almost horizontal, and a little irregular. The portion of the pupil which was visible acted well to light. In ordinary daylight, only about the lower fifth of the pupil was visible. When concentrated light was thrown upon the eye, the whole of the pupil disappeared behind the membrane. With atropine it dilated well in a downward direction, but hardly at all laterally. Evidently, therefore, the membrane was everywhere attached to the small vascular circle. In Graefe's well-known case in which, as in this, there was a true membrane (and not, as in the majority, only a few fibres), the pupil dilated under atropine in all directions, showing that the membrane was only connected with the iris by a greater or less number of fine threads. In this case, on the contrary, the membrane along the whole length of its border was directly continuous with the iris, and it is believed by the author to be the only instance of this hitherto recorded.

5304. *Dantziger on Massage in the Treatment of Opacities of the Cornea.*—The writer gives a detailed account of ten cases in which massage was employed systematically, with the view of clearing up old opacities of the cornea. In four of the cases, the opaque portion of the cornea was first scraped away, and massage commenced from five to eight days later; in the others, the massage constituted the whole treatment. The scraping was performed under cucaine, with antiseptic precautions, a Graefe's cataract-knife being used, and the opacity being scratched away in the same manner as one removes a blot from paper. Iodoform was applied as a dressing, and atropine and warm fomentations used for two or three days to prevent iritis from supervening. There was usually rather severe irritation for the first four-and-twenty hours; on the second or third day, there were a few vessels to be seen on the cornea passing to the abraded area, on and around which there was some recent exudation; by the fifth to the eighth day, the epithelium would generally be re-formed; as soon as this was the case massage was commenced, the presence of vessels on the cornea not being considered any contra-indication. The massage was performed in the following manner. A minute portion of Pagenstecher's ointment was first introduced; then the upper lid was, with the point of the forefinger, rubbed from side to side over the cornea, with a rapid, almost tremulous motion. This was repeated daily, each sitting lasting about half a minute; slight conjunctival injection was produced, which passed off in a few minutes; if it last as long as half an hour, the massage must be used at longer intervals, and in some cases abandoned. All the cases were examples of rather dense opacities, the result of ulceration, or severe pannus, which had existed, at the time when the treatment was commenced, for three or four years (except in three, in which the opacity had existed two, nine, and fourteen months respectively). The massage was continued for periods varying from one to seven months, and was followed by considerable improvement in vision, except in one case, in which the whole cornea was of a dense greyish-white colour. As might be expected, the more recent opacities gave the best result. Thus, in one which had existed two months the improvement in seven weeks was from $\frac{20}{100}$ths to $\frac{20}{40}$ths, but so recent an opacity can hardly be cited as evidence of the value of the treatment. A more typical example is that of a scrofulous lad of 13, who had had a dense corneal opacity three years, vision being fingers at 20 feet. The opacity was scraped, and massage commenced on the eighth day; in five weeks V = $\frac{20}{70}$ths, and 3 Jäger at 6 inches. The cases are too few in number to establish many general conclusions; but they do show that, in cases which are very intractable to ordinary treatment, a very considerable improvement in vision can be brought about by massage, alone or combined with scraping.

5305. *Baeumler on a Case of Alveolar Sarcoma of the Orbit affecting the Globe Secondarily.*—When orbital and uveal sarcoma co-exist, in the opinion of all recent authorities (Berlin, Graefe and Sämisch's *Handbook*, Fuch's *Sarcoma der Uvealtractus*), the latter is always the primary affection; the case now recorded is an instance to the contrary. The patient, Frau A. A., was a woman aged 52, who had always had good health. Ten years ago, proptosis of the left eye was noticed; this gradually increased without any pain, and without any impairment of vision till a few months ago; the history, however, in the latter respect was a little uncertain. When she was seen, the general health appeared to be good. There was great proptosis of the left eye; the globe was displaced downwards and inwards, and was immovable. The pupil was of medium size, but inactive. There was no perception of light; no tenderness. There was well-marked papillitis, with slight swelling, and greyish cloudiness of the adjacent retina. On enucleating the globe, its posterior part was found to be firmly adherent to the tumour. About 1 centimètre of the optic nerve, being imbedded in a portion of the tumour, was removed with the globe. The remaining contents of the orbit were then removed without difficulty. The tumour, which was of firm consistence, completely filled the orbit, enveloped about the posterior fourth of the globe, and completely surrounded the optic nerve, which was somewhat shrunken. The intervaginal space was dilated, and contained portions of the tumour. The structure was that of an alveolar sarcoma; at one point it had perforated the dural sheath of the nerve, and extended within it and the intervaginal space up to the globe. The optic disc, and immediately adjacent retina, were very prominent, being pushed forwards by a deposit of the tumour within the substance of the subjacent choroid, which formed a complete ring round the optic-nerve entrance, of a breadth varying from 1 to 3 millimètres. No direct continuity could be seen between the orbital and intra-ocular portions of the tumour; but the appearance of one of the ciliary arteries suggested that the growth had reached the interior of the globe along these vessels.

5306. *Hirschberg on Two Cases of Embolism of the Retina.*—CASE I.—*Embolism with presence of a so-called Cilio-retinal Vessel.*—Richard B., aged 20, seen July 4, 1885, stated that two days previously he had noticed scintillation before the left eye, and that since then the vision of that eye had become impaired. He was an athlete, apparently in perfect health, and there was no evidence of any cardiac affection. The ophthalmoscope showed the typical appearance of an embolism of the retinal artery, modified by the presence of a so-called cilio-retinal branch. The almost greenish-white (grünlich-weisse) œdema of the retina shaded off gradually in all directions from the disc, except on the outer side, where the disc, and a sharply defined triangular area of the retina, were quite intact. The apex of this area lay immediately beneath the yellow spot. The œdema surrounded the triangle, and was most marked in the region of fovea centralis, which was seen as a dark-brown spot. The branches of the retinal arteries were contracted, but not empty, and at the margins of the disc were almost covered. They could not be emptied by pressure, nor could pulsation be produced. The larger veins were distended and dark. Here and there, a minute interruption in the column of blood could be seen. In two veins of the third magnitude, one above and the other below the fovea, the blood-column was seen broken up into small cylinders, but the characteristic to-and-fro movement was not present. In the triangular area of normal retina was a small artery, which emerged from the normal temporal border of the disc. That the connection between the presence of this artery and the absence of œdema in the triangular area was more than accidental, was proved by the fact that this portion of the retina retained its function, as shown by the chart of the visual field, and by the fact that in eccentric fixation vision was 15-200ths. The fact also that the vessel could be emptied by pressure showed that it was pervious to the blood-current. The author believed that this vessel was a branch of the central artery of the retina, coming off on the proximal side of the embolism, and this was confirmed by the progress of the case; for, nine days later, this vessel had become reduced to the size of a thread, and was unaffected by pressure on the globe, showing that it had become occluded either from an increase in the size of the plug, or from secondary changes in the wall of the main vessel. When seen two months after the onset attack, the disc was pale and sharply defined. The arteries small and accompanied by fine white lines. Vision = 15-100ths. CASE II.—*Partial Embolism of the lower half of the Retina.*—Friedrich S., aged 22, had sudden loss of the vision of the left eye. The following day vision was restored in the lower half of the field. When seen the day after the attack, vision was = 15-20ths. The upper half of the field was lost; the line of separation being horizontal. The upper vessels were normal; the inferior artery was normal for the distance of about three times its breadth; then it was of a dark brownish red colour for a short distance; then it divided, and appeared empty, finally, it was again filled with blood, but contracted. Only the first portion pulsated on pressure. There was no evidence of heart-disease, but he complained of palpitation. A week later, the lower artery was again filled, indeed distended, and pulsated on pressure. The œdema of the retina remained the same.

5307. *Ancke on 100 Cases of Diffuse Interstitial Keratitis.*—The cases related by Dr. Ancke (*Centralbl. für Prakt. Augenheilk.*, 1885, p. 360) are the last 100 of this affection in Hirschberg's clinique. The greatest number (37) were between the ages of 11 and 20; there was then a rapid decline to the age of 45, after which the affection was extremely rare. In 24 there was undoubted syphilis (2 congenital, and 10 acquired). In 24 syphilis was doubtful, and in 39 absent. Typical Hutchinson's teeth were found in 11; in 7 of these there was undoubted congenital syphilis, and in the others it was doubtful.

5308. *Samelsohn on Absorption of an Eyelash in the Anterior Chamber.*—H. H., aged 19, had a perforating wound of the cornea from a knife. When seen, four days later, there was moderate injection; the edges of the wound were slightly infiltrated and united, and between them, about the middle of the wound, the root of an eyelash was gripped, the lash itself extending into the anterior chamber. The lens was opaque throughout; a rent could be seen in the capsule, and through it some of the swollen lens-matter had escaped into the anterior chamber. Two days later, the eyelash could be seen completely imbedded in the swollen lens-substance. The lens-matter increasing, the lash became hidden from view. The lens-substance was slowly absorbed, but no trace of the eyelash was again seen. At the point where it had been fixed to the cornea, a small white speck remained. Professor Kühne having been asked as to the possibility of absorption having taken place, replied that it is difficult to believe that keratin is soluble in alkaline and diffluent lens. It is not affected by prolonged treatment with dilute alkalies; but this is only known of free alkalies, and not of those which are combined with an albuminous body. No quantitative analysis has yet been made to show how much keratin is contained in hair. If everything, however, in a hair except the keratin were dissolved, it would break down into fine scales.

5309. *Williams on Cysticercus in the Anterior Chamber.*—Dr. Richard Williams related the following case in a collier, aged 22. When first seen, the case was diagnosed and treated as one of iritis. The iris was discoloured, and the pupil fixed. Nine days later, a whitish mass was noticed in the lower part of the anterior chamber, and rather behind this was a vesicle about the size of a small bead; transparent, and containing a whitish nucleus. Two days later it had shifted its position, and was seen to have a tremulous motion. A fortnight later, there were considerable circumcorneal injection, and lacrymation. The pupil was hidden by a whitish mass, not unlike lens-matter after discission. Above this, resting on the iris, was seen a small round transparent body, with a regular outline, and a yellowish speck in the centre. Its walls were seen every now and then to undergo an active wavy movement, during which a whitish cloud within the vesicle obscured the nucleus. A few days later the cysticercus dropped to the lower part of the chamber, and its movements became less active. A linear incision being made, the cyst was forcibly expelled. The eye recovered with normal vision. The cyst presented two groups of hooklets, of twelve each.

5310. *Widmark on Micro-organisms in Dacryocystitis, Hypopyon-keratitis, and Blepharo-adenitis.*—The author obtained four varieties of micro-organisms from the secretion of ten cases of dacryocystitis. Two of these were micrococci, which were readily cultivated in the gelatine of blood-serum, in agar-agar, and peptonised meat-gelatine, and produced respectively the staphylococcus pyogenes albus and aureus of Rosenbach; the third the author considered to be identical with the streptococcus pyogenes of Rosenbach, or the 'microbe-en-chapelet' of Pasteur. It could also be cultivated in the three above-mentioned media, without dissolving them. The fourth was a short rod-like bacillus, germinating freely in all three. Inoculated on the cornea of a rabbit, they all set up hypopyon-keratitis, which, however, unlike that caused by dacryocystitis in man, did not lead to destruction of the whole thickness of the cornea, a difference ascribed by the author to the single, as opposed to the constant, inoculation. The author succeeded also in obtaining specimens of the first mentioned microbe from a serpiginous ulcer in the human subject, and of the bacteria from a case of hypopyon following extraction of cataract. The microbes reared from these, inoculated on the cornea of a rabbit, also set up hypopyon-keratitis. Micrococci were also found in the small styes forming at the roots of the eyelashes. By culture-experiments, the staphylococcus pyogenes aureus alone developed in the majority, in one case the staphylococcus pyogenes albus, and in a few both were produced. Similar results were obtained in twelve cases of phlegmonous dacryocystitis. Culture experiments were carried out in six cases, streptococcus pyogenes being developed alone in five, and in one mixed with the staphylococcus pyogenes albus. The author thus explains the occurrence of dacryocystitis and its complications. As long as the lacrymal passages are in the normal condition, the continuous current of the tears carries the microbes along with them, but as soon as the secretion becomes stagnant from any obstruction to the flow of the tears, the microbes meet with conditions more suitable for their development, and, by altering the contents of the lacrymal sac, render them highly irritating to the mucous lining, and thus lead to active migration of leucocytes. Hypopyon-keratitis can be excited by several varieties of microbes, and its various grades of severity probably depend, in part at any rate, on differences in the virulence of the microbes. The small abscesses which form at the roots of the eyelashes are due to the staphylococcus aureus or albus; those which form in the cellular tissue over the lacrymal sac are, on the other hand, due to the emigration of the streptococcus pyogenes; and the course of these two affections confirms the conclusions of Ogston and Rosenbach that the staphylococcus albus and aureus excite limited inflammation, while the streptococcus pyogenes causes suppuration of a more erysipelatous nature.

5311. *Sattler on the Micro-organisms contained in Pus from the Lacrymal Sac.*—The author, in this paper, records the results he obtained in experiments undertaken, first, with the view of isolating the various micro-organisms which exist in pus taken from the lacrymal sac, and, secondly, of observing the effect of inoculating the cornea with these. The micro-organisms were isolated by culture-experiments, Koch's method being adopted. As a rule, several varieties were produced, although one kind frequently far outnumbered the others. In 83 per cent. of the cases examined, the staphylococcus of Rosenbach was found in its three forms, or rather phases (Spielarten), the staphylococcus albus, aureus, and cysticus. Two other forms of micrococci were found, one resembling in its behaviour under cultivation the pneumonia coccus of Friedländer, and the other the micrococcus cereus of Passet. Six varieties of bacteria were found, three only once, the others repeatedly, and this not in bad coloured and over-ripe, but in good, pus. Only one of these developed true spores, and this, inoculated into a corneal wound, appeared to be harmless. Only one possessed the property of liquefying the gelatine; this resembled the bacterium derived by Hauser from putrid meat, and named by him proteus. Experiments were made to ascertain the action of these micro-organisms of the cornea by making a small incision, and inoculating it with some of the products of cultivation. By far the most virulent was the staphylococcus pyogenes. It set up severe purulent keratitis with hypopyon and iritis, and sometimes led to perforation. Both the micrococcus resembling pseudo-pneumonia and the coccus cereus set up hypopyon-keratitis, but it was less intense than that produced by the preceding. The bacterium resembling Hauser's proteus also set up suppurative keratitis, but its action was less intense than that of the micrococcus pyogenes, but more so than that of the proteus derived from putrid meat. The action of the others was less intense.

5312. *Ulrich on Tubercle-bacilli in Ulcerated Conjunctiva.*—Dr. G. Ulrich relates two cases. CASE I.—H. H., aged 32, apparently in good health, with no physical signs of lung-mischief, and no glandular swellings, had formerly suffered from a cough with free expectoration, and had had hæmoptysis a year ago. His father's brother, as well as two of his own 'brothers or sisters,' had died of phthisis. On the conjunctiva of the lower lid, in the retrotarsal fold, and involving a small strip of the ocular conjunctiva, were several ulcers, with jagged undermined edges and grey bases. On the upper lid were three small, but similar ulcers. The whole palpebral conjunctiva was thickened and congested. The ocular conjunctiva in the neighbourhood of the fold was injected, thickened, and had a hard glazed appearance. CASE II.—A child, ten months old, was of healthy appearance, but had a family history of phthisis. The whole of the lower palpebral conjunctiva was occupied by a greyish-yellow ulcerated surface with jagged edges; the conjunctiva of the upper lid was thickened and hyperæmic. In both cases, a portion of the palpebral conjunctiva was excised. Microscopic examination showed typical tubercle in the conjunctiva, presenting the same appearance as in Baumgarten's cases (*Archiv für Ophthalm.*, Band xxiv.). After staining by Ehrlich's method, tubercle-bacilli were found in both cases.

W. ADAMS FROST.

5313. *Soloveitchik on Jequirity in Corneal Opacity.*—Dr. Fabian L. Soloveitchik, of Karaklis, details an interesting case (*Proceedings of the Caucasian Medical Society*, No. 12, 1885, p. 287) of a soldier, aged 25, who had been admitted with complete blindness of the right eye, resulting from dense opacity of the whole cornea with considerable vascularisation (which changes had been left by repeated keratitis). Following the recommendation of Dr. M. J. Reich, of Tiflis, the author tried the jequirity treatment. An infusion at first of 5, and subsequently of 10 grains of the seeds, to 1 ounce of distilled water, was applied to the everted palpebral conjunctivæ. During six weeks, about twenty-six applications were made. The opacity began to clear off from the third week of the treatment. On being examined by the end of the sixth week, the patient could read well, at the distance of four mètres, the whole second line and some letters of the third line of the tables used for examination of sight. Unluckily, the patient was lost from further observation.

5314. *Smirnoff on Jequirity in Trachoma.*—In the *Voënno-Sanitarnoë Delo*, No. 30, 1885, p. 325, Dr. P. A. Smirnoff, senior surgeon to the Military Hospital, in Karabutak, Turgai Government, emphatically recommends 'a persevering, but cautious, use of jequirity infusion in trachoma, the results being brilliant, though coming but at a slow pace.' In December 1883, he used jequirity seeds for the first time in three cases of severe trachoma. At first, the improvement seemed to be almost none. But during 1884 enormous granulations gradually disappeared, leaving no scars whatever. On re-examining the patients in 1885, he found their conjunctivæ absolutely normal. While pointing out that jequirity is decidedly the best of all means known for trachoma, Dr. Smirnoff strongly advises that the treatment be carried out in a darkened room, and that the infusion be prepared (after Peschel's method), and the preparation dropped in by the surgeon's own hands.

5315. *Tepliashin on Cataract from Ergotism.*—Dr. A. P. Tepliashin, of Glasov, Viatka Government, states (*Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 23 and 24, 1885) that during 1882-84 he has met eleven cases of hard cataract, undoubtedly caused by chronic poisoning by ergot. The patients, eight of whom were female and three men, were aged 17, 22, 26, 28, 30 (3), 35, 36, 40, and 42. All eleven cases were sequels to an epidemic of ergotism ('*zlaïa kortcha*,' *i.e.* 'bad cramp') which had broken out in certain parts of the Glasov district in 1879-81. The author draws attention to the fact that in agricultural *gubernias* (governments) where the peasantry live almost exclusively on rye-bread, and where epidemics of ergotism occur pretty frequently, ergotism plays a prominent part in the causation of cataract. V. IDELSON, M.D.

3316. *Brailey on Stretching of the Supratrochlear Nerve.*—In the *Brit. Med. Jour.*, October 1885, p. 688, Dr. Brailey states that he has tried the operation of stretching the supratrochlear nerve as first suggested in 1882 by Badal, of Bordeaux, in the following classes of cases: 1. for the relief of ciliary neuralgia; 2. for lowering tension. The author records notes of six cases in which he performed this operation, and gives it as his opinion that it is a beneficial operation in cases of glaucoma absolutum, and in cases of intractable glaucoma generally. Stretching the supra-orbital nerve exercises no beneficial effect on the tension in cases of glaucoma.

5317. *Jessop on the Combined Action of Cucaine and Atropine in Iritis.*—In the *Lancet*, Oct. 1885, p. 659, Mr. W. H. Jessop records several cases illustrating the combined action of cucaine and atropine, in producing a very large dilatation of the pupil in iritis. The author remarks that by this combination the following results are quickly and constantly attained:—great dilatation of the pupil, relief of pain, diminution of ciliary congestion, and decrease of intra-ocular tension when present. Neither drug produces alone all the effects necessary in the treatment of a case of iritis; but the combination of the two produces just what is required—viz., an *ad maximum* dilatation of the pupil, constriction of the vessels of the iris, and inaction of the pupil to light and accommodation. This dilatation of the pupil keeps the pupillary border of the iris away from the capsule of the lens, preventing adhesions, and also breaks down synechiæ when formed by stretching them, and by constricting their vascular supply, so that they are literally starved. The rapid cessation of pain which follows the application of cucaine and atropine in iritis enables one to dispense with blisters and leeches.

Richard Neale, M.D.

5318. *Terrier, Chibret, and Rohmer on Eye-Grafting.*—At a recent meeting of the Surgical Society of Paris, M. Terrier read a report on two cases of eye-grafting by Chibret, of Clermont, and M. Rohmer, of Nancy. M. Chibret transplanted a rabbit's eye, after the patient's eye had been enucleated. On the fifteenth day there was necrosis of the cornea, and suppuration of the stump. M. Terrier performed the same operation. He joined by sutures the human conjunctiva to that of the rabbit. A few days subsequently gangrene set in, and only the stump remained. M. Rohmer transplanted a dog's eye. He cut the conjunctiva two millimètres from the cornea, and thus preserved a band of the membrane; he then sutured together the two conjunctival membranes. A few days after the operation the eye could be turned in every direction, but in a short time sphacelus set in on the band of mucous membrane, and spread to the cornea. M. Rohmer entirely enucleated the eye in consequence of sympathetic disturbance manifested in the sound eye. Mr. Bradfert, of Boston, in performing this operation, joined the two optic nerves, then the muscles; these latter he grafted on to the connective tissue underneath the conjunctival membrane. On the eighteenth day the cornea became clearer; there was a little ulcerated spot on the cornea, but the globe of the eye retained its movements. M. Terrier laid great stress on the advantages of Mr. Bradfert's method.

5319. *Galezowski on Pelletierine.*—M. Galezowski lately read a paper before the Académie de Médecine on the action of pelletierine on the motor nerves of the eye. His researches are based on the ocular disturbance which occurs in subjects who absorb pelletierine, and who are affected with diplopia. The observation of this fact has induced M. Galezowski to prescribe pelletierine, when there is paralysis of the third and sixth pairs of nerves. Iodide of potassium and blisters have failed where pelletierine has cured; the preparation used is syrup of pelletierine, 1 gramme per 120 parts of syrup. From three to six doses were administered. Unfortunately, this substance is excessively dear. M. Galezowski hopes to meet this difficulty by administering pelletierine in subcutaneous injections.

W. Vignal.

5320. *Aguilar y Blanch on Cholera and Neuro-paralytic Keratitis.*—The distinguished oculist, Dr. Aguilar y Blanch, contributes to the *Cronica Medica* of Valencia a paper on cholera and neuro-paralytic keratitis. His conclusions are these. 1. Cholera may give rise to a disturbance of the visual apparatus. 2. This is most apt to occur in the comatose form of the disease. 3. Children, and individuals with little organic resistance, are most affected. 4. The poor and ill-fed give the greatest contingent of patients. 5. The ocular affection is characterised by a neuro-paralytic keratitis. 6. In the majority of cases, both eyes are affected. 7. It follows the ordinary phases of this form, *i.e.* primary molecular mortification of whitish colour, becoming yellowish, extending superficially rather than in depth, disintegration of the elements in its centre, perforation, hernia of the iris, total mortification of the corneæ, phlegmon of the eye. 8. The point affected is always the centre of the cornea, from whence it extends after previous infiltration. 9. The disease yields promptly, if taken in the early stage and with appropriate treatment. 10. The treatment consists in hot fomentations, bandage, eserine, iodoform, and tonics.

G. D'Arcy Adams, M.D.

REVIEWS.

Article 5321.

Psychiatry. A Clinical Treatise on Diseases of the Fore-Brain, based upon a Study of its Structure, Functions, and Nutrition. By Theodor Meynert, M.D., Professor of Nervous Diseases and Chief of the Psychiatric Clinic in Vienna. Translated by B. Sachs, M.D. Part. I. The Anatomy, Physiology, and Chemistry of the Brain. Pp. ix-285. New York and London: G. P. Putnam's Sons. 1885.

The name of Professor Meynert is well known as that of an obscure writer on an obscure subject, and the volume before us will confirm his reputation in that respect. In spite of the singular difficulty under which he labours to make his readers understand his meaning, he has shown himself to be an able investigator, and has largely contributed to the advance and promoted the culture of nerve-anatomy. Up to about forty years ago, the only method pursued for studying the cerebral structures was that known in Germany as the 'Abfaserung' or cleavage method. It consists in following out, with scalpel and forceps, the layers or bundles of fibres on brains hardened in alcohol. The limitations of such a method are evident, its fallacies numerous, but it has yielded some results in the hands of Meynert, who here appears as one of its last champions. But, to use Dr. Sachs's Americanism, this mode of investigation has been gradually 'crowded out' by that of Stilling's microscopic sections. This process, discovered in 1842, was improved by Lockhart Clarke (1857) and Gerlach (1858), who respectively brought into use essential oils and carmine, as agents for rendering transparent and staining the sections.

The results obtained by a larger number of enthusiastic workers in this field of research threw a flood of light upon many an obscure point. But it became gradually more and more evident that, in presence of the stupendous entanglement of the cells and fibres that make up the encephalon, no purely anatomical method, even when pursued from a comparative point of view, could elucidate the course of the nerve-tracts from one end to the other. The physiological and pathological principles of development and degeneration of nerve have supplied the want; and their introduction into neurological research, though recent, has enabled us to solve problems that had defied for centuries the most practised scalpels.

Türk (1850) had observed that, after an injury of the spinal cord, certain alterations occur both above and below the seat of the lesion, but that the localisation of these ascending and descending degenerations do not occupy the same areas in the cord. In the 'law of Waller' (whom by the way Dr. Sachs confounds with Ritter at page 240 of the translation), promulgated soon afterwards, we find an explanation of this and all other facts of nerve-degeneration: fibres die when separated from their trophic centres. Anatomo-clinical observations, on the one hand, demonstrated the existence of morbid types characterised by alterations along certain definite nerve-tracts, or systems of fibres, hence called 'systematic' degenerations. To Charcot and his school belongs the chief credit of having cultivated this method of investigation, and with brilliant success. Experimental pathology, on the other hand, as cultivated by Gudden and many others, by the artificial production of nerve-degenerations, has already traced out the course of several cerebro-spinal tracts, and is full of promises for the future. Flechsig's name is intimately associated with the developmental study of nerve-tracts. His great work, published ten years ago, opened up a new horizon to the anatomist groping for light. He takes his standpoint upon the fact that, during fœtal and early life, different systems of fibres are developed—*i.e.* become medullated—at different periods; and his results speedily demonstrated the fruitful nature of this new field of inquiry.

This rapid historical sketch will assist the reader of Prof. Meynert's book to form an opinion as to the value of the first chapter (137 pages) in which he deals with the general structure of the brain, and tries to impart a knowledge of its finer anatomy, based upon his original researches. It is obvious that truth, in a question of this nature, where disagreement is rife among different observers, can be reached only by a careful comparison of the discrepant results, and a critical estimation of the various methods by which they have been obtained. It would be a hopeless task in a review like this even to mention the points on which our author's views are in conflict with those of other investigators; far more so, to discuss them in detail.

Turning to the 'physiological corollaries,' Prof. Meynert's chief merit is, in our eyes, to have demonstrated the bearing of the principles of cortical 'projection' and 'association' upon those functions of the brain which form the material substratum of the mental processes, and to have insisted upon the necessity of studying diseases of the mind from a physical standpoint. It is true that, in this part of the author's writings, much of what may appear novel to a German reader will not so strike one brought up in the psychology of Hartley, Mill, and Bain. Nevertheless, we must take into account the disadvantages under which an author, living among the metaphysical tendencies of the German philosophical schools, must encounter in trying to reconcile the cerebral mechanisms of thought and feeling with the data of consciousness. Nor shall we, for the same reason, wonder at the hopeless jumble of the objective and subjective elements which renders the second part of the present volume well nigh unintelligible in many parts. Dr. Sachs has made proof of true heroism in attempting to render these chapters into English. No doubt, he has spared no efforts to make interpretation as faithful and as intelligible as possible; but the result is not happy. Not having the original for comparison we cannot criticise the translation; but in two or three places the translator, ill at ease evidently, gives the German expression to assist us. So we find that 'Schlussprocess' is rendered by 'process of induction,' an error which will prove most confusing to the uninitiated, as the expression occurs frequently afterwards. 'Inference,' not induction, is the only English equivalent for 'Schluss;' and the brain can in no sense be called an 'induction apparatus,' as it actually is on p. 177 of the translation. So, again, 'sinnliche Klarheit' is scarcely accounted for by 'material background;' but those who are acquainted with Professor Meynert's articles in Stricker's handbook will forgive much to his luckless translators.

Notwithstanding several determined attempts to understand Professor Meynert's doctrine of 'the sensation of innervation' (*i.e.* the 'muscular sense'), we are not sure of having got at his meaning. Unfortunately for his views, he follows Munk in his distribution of sensory areas in the cortex, though, under the weight of the most recent experiments, this theory is tottering to its very base. Nor, indeed, have we grasped the writer's fundamental position, 'that, in order to understand the functional activity of the brain, it is necessary to attribute but a single transcendental quality—*i.e.* sensitiveness—to the ganglionic cell,' and that 'from this faculty of sensitiveness actual sensation is evolved in the forebrain.' Nor are we made much wiser by the statement that it is 'the central nerve-tracts which effect the transformation of external stimulation into sensation.'

Such attempts at 'scientific' psychology are not likely to render the new doctrine acceptable to the earnest disciple of the subjective and analytical school, who will remain content to wait for a more lucid explanation of facts, the existence of which, at least, he fully recognises.

After having thus lost ourselves in the labyrinth of Professor Meynert's corollaries concerning the connections between the phenomena of cerebration and mentation, we reached, with a sense of relief, the chapter on the 'Nutrition of the Brain.' It opens with some anatomical considerations on the vascular and lymphatic systems, and a short summary of the chemistry of the brain, which call for no special comment. The point of interest in it is the theory propounded by the author concerning the relationship between blood-supply and cell-activity. Starting from the fact that the arterial arrangements are such as to allow localised hyperæmia of the cortical centres, and that the expenditure of cellular contents demands an equivalent supply, Professor Meynert assumes as a third postulate that the cortex contains a vaso-motor mechanism governing the general bulbar vaso-motor centre. Hence, whenever a group of cells are called into functional activity, they become the seat of an influx of blood that supplies their wants. Whatever be the value of this theory so far, we next come across a difficulty. For, since the energy of this cell-activity must be proportional to its vaso-motor effect on the one hand, and to its subjective or mental equivalent on the other, we must assume the latter to exist before the vascular influx can make its influence felt. Now, Professor Meynert, after quoting Fechner approvingly, says (p. 247): 'These associations may be formed unconsciously, *i.e.* below the threshold of consciousness, and yet they may rise above this level, and into consciousness as complete inductions (inferences), if any group of elements in these regions will by associations stimulate nutritive attraction to such a degree of intensity, that these groups can pass from the condition of partial sleep to that of partial wakefulness'—a passage which, translated into plain English, means that it is the energy of the vascular (hyperæmic) effect which determines the reaction of cell-action in consciousness. But we have already seen that the cellular and mental activity run a parallel course. Hence we find ourselves here landed in the very midst of a vicious circle; and this attempt to explain mental manifestations by vaso-motor processes, finds its analogue in the futile gyrations of the dog endeavouring to seize its own caudal appendage.

An appendix on the mechanism of expression closes this first volume of the *Psychiatry*. We have no doubt that in the second, on 'the Diseases of the Fore-Brain,' Professor Meynert will be found more happy in the application of his principles than he has been in their enunciation.

A. DE WATTEVILLE, M.D.

ARTICLE 5322.

1. *Zur Theorie der Heilwirkung des Franzensbader Moores.* Von DR. C. REINL. 8vo., pp. 20. Prag, 1885.
2. *Climatologie de la Station Thermale et Hivernale de Dax (Landes).* Par le DR. BARTHE, de Sandfort. 8vo, pp. 16. 1885.
3. *Rome in Winter, and the Tuscan Hills in Summer.* By DAVID YOUNG, M.D. 12mo, pp. 288. London: H. K. Lewis. 1886.

1. THIS is an account of experiments made with the Franzensbad *moor-earth* (turf, exposed to the atmosphere, and saturated with mineral water containing sulphate of iron), to test its action on microphytes. The general result seems to have been obtained, that it is inimical or destructive to most forms of them.

The author explains on these grounds, and also on that of its astringency, its favourable action on the secretions of the vagina when locally introduced, as well as when employed in a general bath. He also broaches the question, whether *moor-earth* might not, on account of this parasite-killing power, be found useful in many cutaneous affections.

He merely throws out these views tentatively.

2. For persons in good health, there is no doubt that the stations of the Riviera, with the beautiful shores of the Mediterranean and the magnificent sun, are far more attractive than a winter residence in Arcachon, Dax, Pau, or even Biarritz. But for invalids the question is different. The climate of the former is exciting, that of the latter sedative. In a therapeutic point of view, pulmonary maladies may be divided into torpid and erethic. The first are suited for the Riviera, the last for Dax or Pau.

Dax is only about sixty feet above the sea, from which it is distant twenty-five miles, and separated by a large forest of pine-wood; it is away from the mountains, and has a mild equable temperature. It also possesses an enormous quantity of warm springs, and unprejudiced writers really believe that their amount is sufficient to modify the local climate. We have repeatedly called attention to the admirable establishment at Dax, with its immense corridors, well fitted for a winter residence, and we are surprised that so few English have hitherto resorted to it. Before the new bath-house was erected, an eminent French authority expressed himself thus: 'All the elements of a respiratory diet are there furnished abundantly by nature. The water, the heat, the vapour, and the gas rise from their subterranean manufactory, which our art and our science cannot produce as well.' The chief drawback is that the place is rather dull, and that its environs are not very interesting.

3. We have often wondered that no book had appeared in English on the climate and the diseases of a place so much resorted to by our countrymen as Rome. Nevertheless, Dr. Young is scarcely accurate in saying that, excepting the treatise by Sir James Clark, written now many years ago, no book exists in our language which treats of Rome and its climate. Sir J. Clark wrote no separate work on Rome, although in his book on climate he treated pretty fully of that city. Since him, or about 1861, Dr. Edwin Lee handled the subject at nearly the same length; nor should we overlook the quite recent sketch by Dr. Marcet, which embodies the substance of Dr. Aitken's papers on the sanitary condition and the fevers of Rome. Still, Dr. Young's work is welcome at present, and all the more so, because it does not confine itself to Rome, but includes notices of many of the less known localities of Italy.

It would, perhaps, in a half popular treatise like this, have been better if in one respect our author had followed Sir James Clark in his treatment of the subject of malaria. 'Interesting though the subject was,' he thought that 'a formal or scientific discussion of it would be quite foreign to the object of his work.' Our author, on the other hand, favours us with a long discussion on all the most recent theories of malaria, and especially on those which point to some low forms of vegetation as its source. To ordinary readers, accounts of 'algæ and their spores, or of a kind of bacillus in the form of rods and elongated oval moving spores,' are not very intelligible; and, while these things continue to be chiefly a curious subject of inquiry, it does not appear to us wise to give such very uncomfortable information as this, for instance, that the micro-organism is found in the air we breathe and in the water we drink, and that when the poison gains access to the body by the stomach rather than by the lungs, its action is more rapid. We think, also, that Dr. Young was within his limit when he pointed out that the amount of solid constituents in the popular Trevi water varies in different parts of its course, which undoubtedly points to some defect in the aqueduct; but he seems to have gone too far in suggesting the probability of sewage-contamination, and in expressing strongly his opinion that malaria is probably conveyed by its water—because he conceives that he has ascertained that the source of the water is in a malarious locality. On the whole, with his many very unpleasant suggestions, one would say that the author has done a good deal to poison the happiness of visitors to Rome. However, he supplies the antidote in some measure, as he is able to show that all the sanitary arrangements of the city are rapidly altering for the better, although one still finds badly built drains untrapped and unventilated, and various imperfect domestic arrangements.

We proceed to what our author says on the diseases of Rome. Of this the keynote was struck a good many years ago, in his work 'On some of the Effects of the Climate of Italy,' by Dr. King Chambers, of whom, we are glad to know, Dr. Young has unnecessarily spoken as 'the late.' He quotes that gentleman's writings freely and with full acknowledgment, a course which is not always followed by him and other writers on climate in using some of the remarks of previous writers. The keynote is the greater acuteness of illnesses in Italy than in England, notably in affections of the nervous system and in pulmonary attacks. Indeed, we hear more of deaths in Rome from pneumonia and acute pulmonary affections, than from the much dreaded Roman fever. This makes us regret that, as far as we can see, the promise made at p. 75 to discuss the subject of acute diseases of the lungs has not been fulfilled.

As regards typhoid fever, Dr. Young shows that no foreign capital except London has a smaller typhoid mortality than Rome, and that Rome has fewer cases of that disease than any of the other Italian large cities. This applies to the native population. Foreign residents do not appear to suffer much from it, and foreign visitors appear to have died of late years only at the rate of three *per annum*. Our author thinks that the improvements going on in Rome must eventually eradicate this disease.

True Roman fever is described by Dr. Young, as by some of his predecessors, as a malarious fever of continued type. He considers the malarious element to predominate, and that in its early stage it is amenable to quinine. Dr. Young offers some sensible remarks on visitors drugging themselves with that medicine.

We should have been pleased if the book had contained more definite information than it does on chronic dysentery and diarrhœa.

Having offered these few criticisms, we are now able cordially to thank Dr. Young for his work, which will be useful to the profession as well as to visitors to Rome. But he does not confine himself to that city. He is an enthusiastic guide to its vicinity, to the Alban Hills, and, above all, to the pleasant Sabine retreats of Horace.

An interesting and novel portion of the work is to be found in Dr. Young's account of San Marcello, Abetone, and a great many other elevated health-resorts in the Apennines and Northern Italy, interspersed with remarks on various mineral waters. His observations seem generally fair, but he is rather disparaging to Lucca, the waters of which place, like those of its congener, Bath, are not to be despised because their popularity varies.

It is, no doubt, very desirable that those who do not find it convenient to cross the Alps should have the choice of elevated resorts such as Dr. Young offers to them. It is far better to go to them than to remain in the plains, but it is still better and more bracing for all who can manage it to cross the Alps. The want of bracing air is one reason why the mineral waters of Italy, many of them excellent, would, with the exception of a few in elevated situations, remain a matter of indifference to the English, even if any number of them offered adequate comfort and accommodation.

J. MACPHERSON, M.D.

ARTICLE 5323.

On Child-Culture; Mental, Moral, and Physical. By THOMAS MORE MADDEN, M.D., F.R.C.S.E. Dublin : Fannin & Co.

THE ambitious title of this small pamphlet is explained by the fact that it is a reprint of a lecture. In one hour's time it is difficult to adequately treat such a subject as 'child-culture,' which comprises as Dr. Madden indicates, both mental, moral, and physical aspects. It is questionable whether Dr. Madden would not have done well to enlarge his lecture before publishing it, and thus have rendered the pamphlet more worthy of its title. Like all that is written on infant-life, there is much in Dr. Madden's lecture that is true, that has often been said before, and cannot be too often repeated; much also that invites notes of interrogation. His remarks on the use of artificial milk-foods are an excellent example of this. It is by no means clear whether Dr. Madden criticises preparations of condensed milk, also such preparations as Nestlé's food, Ridge's, Mellin's, &c., or only the latter kind. It is very evident that what is true of one is not true of the other. Condensed milk can be used as a substitute for human milk, when that is not forthcoming, from the time of the child's birth. At that period of child-life, the farinaceous preparations above-mentioned might be deadly; later on, towards the fourth or fifth month, according to the child's requirements, its diet should not consist exclusively of milk nor of farinaceous preparations, but of both. If the saliva at that period have not its full digestive properties, the pancreatic juice, which is active after the first two months are passed, is an important amylolytic ferment. The question of cow's milk *versus* condensed milk is one that is not yet settled, and there are no data in Dr. Madden's pamphlet to further its solution. Apart from the physiological value of both, there are artificial difficulties, such as the deteriorating influence of transport on cow's milk; also those of heat, of adulteration, the danger of communicating infectious diseases, and of transmitting tuberculosis. This last possibility leads us to criticise another portion of Dr. Madden's pamphlet, which leaves the reader in doubt as to the deductions the author intends him to make. Dr. Madden affirms 'that strumous tuberculous affections have become more prevalent these later years among children,' and further states 'that the fact is obviously connected with the indisposition to nurse children observable in women of all classes, and also, probably to some extent with the substitution of artificial compounds for the natural food of an infant.' Dr. Madden goes on to say that 'tuberculosis in human beings is indistinguishable from the tubercular bovine epizootic known as *perlsucht*. Moreover, acute forms of tuberculosis, which are most common during childhood, resemble closely the infective diseases in their zymotic origin from a specific virus, whether generated in the body from caseous matter or introduced from without. The latter seems not unlikely in some instances in the tubercular diseases prevalent amongst the children of the poorer classes, into whose dietary tinned or preserved so-called lacteal foods now enter largely.' Dr. Madden, in virtue of the above considerations, considers that such preparations should be restricted to cases in which good fresh milk is not obtainable, or in which it does not agree with the child. In order to unravel this labyrinth of assertions and suppositions, we must begin by supposing that Dr. Madden has reason for saying that the specific virus is present in the 'tinned and preserved so-called lacteal foods,' and absent in fresh cow's milk. It cannot be inferred from the remarks above quoted that the author condemns such foods as simply debilitating causes, affording insufficient nutrition and thus predisposing children to contract tuberculosis when in contact with the infecting element. We are inclined to believe that it is less probable that the bacillus tuberculosis should be present in artificially prepared foods than in cow's milk, because in the course of preparation they are submitted to a degree of heat which destroys this germ. According to most recent researches, the specific micro-organism of tuberculosis does not appear to have an enduring vitality under other conditions than those in which they are produced. As to the debilitative effect of these preparations, there is much ground to warrant the supposition that they are of great utility when used judiciously, and that condensed milk may be substituted for human milk. It is a fatal mistake to prolong the use of condensed milk over the fourth month, without giving one meal a day of farinaceous food in some form, Mellin's, Nestlé's, or Dr. Ridge's. Towards the fifth month, it may with advantage be replaced by cow's milk.

All the homely directions Dr. Madden gives as to regular hours for feeding, bathing, and not frightening children with bogies and ghost stories, are excellent, and, though well known, are not sufficiently practised, and therefore cannot be too often repeated. The social questions upon which Dr. Madden touches—overstimulating the child-brain, juvenile alcoholism, and tobacco-smoking, are terrible instances of the perversion of juvenile health and innocence. The former is more easily dealt with than are the two latter. We heartily endorse Dr. Madden's precept 'that it is physiologically wrong and morally unjustifiable to allow a healthy child to taste alcohol in any form.' The question of over-teaching underfed children occupies the attention of social reformers, and Dr. Madden does well in bringing forward the evils of juvenile alcoholism and tobacco-smoking.

Article 5324.

Fractures and Dislocations. By T. P. Pick, F.R.C.S., Surgeon to and Lecturer on Surgery at St. George's Hospital. Cassell & Co. 1885.

This is one of the blue series of clinical manuals on medical and surgical subjects which, when completed, will form the most thorough encyclopædia of medicine and surgery, probably, in the language. One of the causes of the success of this series is no doubt the judicious selection of the authors, whose names are generally so well known in connection with the subjects upon which they have written, or who are so well esteemed as teachers or workers in the general subjects of professional studies. It is, perhaps, in this latter category that we may class the present author; and we look with considerable interest to see how the subject he has chosen is treated, and how far his book is superior to the general text-books for the student and the practitioner.

The author states that his object has been to produce a manual essentially clinical, and he apologises for being necessarily dogmatic, and rightly, as we think, trusts to his own personal experience in laying down rules for guidance as regards symptoms and treatment, acknowledging at the same time that this experience must in many instances differ from that of other surgeons. But, in a work upon so eminently practical a subject, we expect eminently practical teaching; and the more independent and original the teacher, the more such teaching may differ from what is taught rather by rote from generation to generation. There is more scope for a teacher with mechanical knowledge and practical tendencies in this, than perhaps in any other subject in surgery.

That the subject is thoroughly treated we may be sure from the author's thoroughness and carefulness; but that this is not a practical manual at all, of the nature demanded by the subject, we are bound to confess. The language is not sufficiently forcible, the reference to mechanical principles is rather conspicuous by its absence, and even the author's own views of treatment are not clearly seen in many instances. Anything approaching to originality in his views of causation or treatment we do not find; and when some of the almost discarded methods are accepted, we fail to find any strongly expressed reasons for reverting to the older plans which have been displaced by newer ones. Comparing, too, the amount of information given, and the mode of giving it on this subject in one of the common text-books on surgery, with what we find in this special manual, we cannot help feeling that the advantage is greatly with the text-book. Even in the matter of practical diagrams this book is wanting, and the subject is one specially requiring good illustrations, both of the appearances and of the mechanism of the injuries, as well as of methods of reduction and of apparatus. There are some very good illustrations of pathological specimens from the museum of St. George's Hospital, but the value of the work would be very much increased by considerably extending the number of diagrams, and making them of more assistance to the reader. In the chapters on dislocations, for instance, we find only one diagram to show the positions of patient or operator during the attempts to reduce by manipulation; while the far less useful plan of reduction by pulleys is illustrated more fully from Sir Astley Cooper's work. In the case of dislocation of the shoulder, the reduction by manipulation is not illustrated.

Looking now at the plan of the book, we find the first section occupied with the consideration of the general pathology of fractures; and these ninety pages will be found useful to the student. They contain remarks on the causes, classification, symptoms, and mode of union, treatment, and complications of fracture. Then follows the second section, in which the fractures of the face and neck, the trunk and the extremities, are taken *seriatim*. In like manner, the general pathology of dislocations precedes the particular dislocations.

It is not the purpose of this review to criticise special parts, but rather to give the impressions which a careful perusal has occasioned. We may, however, point out omissions which appear serious to the reader, and which might be rectified in future editions. It would be a great advantage, we think, to have the student informed how to examine a patient suspected of having the injuries discussed; and in this matter we should be glad to see a paragraph added to the description of each fracture and dislocation, as well as some introductory chapter of practical information. One of the complications not referred to, but attending attempted reduction of a dislocated femur by manipulation, is certainly fracture; and this should, we think, be explained to the student, and a warning given, as well as directions for its treatment. It is not often noticed in text-books, and is not noticed here, that, in fracture of the fibula in its shaft, a very useful help in diagnosis is the absence of the natural spring, which can be recognised by pressure over the bone.

With reference to the pathology of fractures, the author thus describes indirect violence: 'When a bone is compressed between two opposing forces and gives way at its weakest part, it is said to occur from indirect violence.' This may be understood by the author, but will hardly convey a correct idea to the student. We cannot help noticing the want of clearness and force in the description of most of the injuries, and we are sorry that the comparison with recent publications on special as well as slight injuries compels us to recognise the deficiency of the present work as a guide to students and practitioners. It is unfortunately not forcible or clear, or practical, as the subject requires. It does not appear to be clinical, as we understand the word, for very few cases are given, and very little use is made of the author's large hospital experience in clearing up doubtful points of causation, diagnosis, or treatment. We are sorry to have come to these conclusions, for the author does not appear to us to have done justice to himself.

ARTICLE 5325.

Ueber Piper Methysticum (*Kawa*). Untersuchungen von Dr. L. LEWIN, Docent der Pharmacologie an der Universität Berlin. Berlin: Hirschwald. 1886.

DR. LEWIN has in this pamphlet given a complete account of the history and use of the national drink of some of the South Sea Islanders. This drink is best known in England as kava-kava, a name indigenous in the Marquesas Islands. The plant from which it is made belongs to the pepper family (Piperaceæ), and is called Piper Methysticum, several varieties of which are cultivated. Kava-kava, as a national drink, has been used from time immemorial in the South Sea Islands; its composition, properties, and action are, therefore, interesting from a sociological point of view. It is to be ranked with such national 'nerve-agents' as cuca, in South America, and, to a less extent, with the haschish (cannabis Indica) of the East: that is, it is non-alcoholic. The preparation of the kava-drink has often been described by travellers. Dr. Lewin, in the account he gives of the ceremonies and preparation, adds nothing to our knowledge. Suffice it to say that the root only of the piper methysticum is utilised: and that, after it has been for a short time chewed by the performers, it is expectorated into a clean bowl; water is added in definite proportion, and the shreds of root are removed by squeezing in a native cloth, or by a rough filtering process.

The point on which Dr. Lewin rightly lays stress in his investigation of this process of kava-making is that it is not, as has been commonly supposed, a fermentative process: the result is simply to get a drinkable mixture of the active principles of the root with water. What these active principles are, the author proceeds to discuss. Gobley and Cuzent had previously analysed the root of the kava-tree; both their results agree in giving 2 per cent. of resin, and 1 per cent. of a neutral principle called kawahin (methysticin). Lewin has investigated these bodies carefully. He extracted the powdered root with hot alcohol repeatedly: on cooling, crystals of kawahin chiefly, but also of another body, yangonin, are deposited. The mother-liquid contains the resin. Kawahin is a neutral non-nitrogenous substance, soluble in boiling alcohol, only slightly in cold, soluble also in benzol, chloroform, alkalies, and boiling water, being deposited from this last solution on cooling. It is not a glucoside, and on dry distillation yields pyrocatechin; with concentrated sulphuric acid, it gives a violet-red colour. Yangonin, though similar in many points to kawahin, does not give this reaction with sulphuric acid. The resin is the active principle of the kava-root. It consists of two bodies, called by Lewin α and β kava-resin, the former of which exists in the greater quantity and is the more active; they differ in the fact that α kava-resin is soluble in petroleum ether, while β kava-resin is not. Dr. Lewin has worked out the physiological action of the ingredients of kava-root; and this is the most important part of the work he has done, although the indications of a therapeutical use of the plant are as yet but slight. As regards the two neutral principles, kawahin and yangonin, it is sufficient to say that they are inert, having no action either locally, or when administered to warm or to cold-blooded animals. The resins are the active ingredients, and of these α kava-resin stands first. The local action of this resin on the skin and mucous membranes is very interesting, resembling that of cucaine in paralysing the sensory nerves. The chewing of the root, or the application of a small portion of this resin to the tongue, causes a biting bitter taste in the mouth, followed by numbness and a complete loss of sensation of the whole buccal cavity. Applied to the eye, the resin causes complete anæsthesia in the cornea and conjunctiva, the local reflex being lost. No dilatation of the pupil occurs; and the reactions to light and accommodation remain unchanged. Subcutaneously injected, the drug causes local anæsthesia. The similarity of this topical action to that of cucaine is remarkable, especially when it is taken into account that cuca has a national use in South America, analogous to the use of kava-kava in the South Seas.

This analogy Dr. Lewin proceeds to discuss by describing the general action of kava-drink. Travellers have given varied accounts of the effects on the aborigines; the author has endeavoured to explain these discrepancies. There is no doubt that the drink is used for the same purposes as its milder substitutes, tea, coffee, cuca—namely, to re-invigorate the system after exertion, mental or bodily, and to 'clear the head;' in large quantities, however, it produces the effects of a narcotic, not so powerful or illusion-producing as opium or haschish. Nausea and vomiting, sweating and diuresis, are described as the results of its action; of these the last is the most important and constant symptom, appearing fifteen to twenty minutes after drinking. The narcotic action is due to the resin, as Lewin definitely proves; it begins with a feeling of calm and content, proceeds to lassitude, and ends in somnolence and deep sleep, which appears twenty to thirty minutes after drinking a moderately large quantity, and lasts from two to eight hours. There is no definite after-effect on waking. It is an interesting point that a sense of craving is established in chronic kava-drinkers; interesting, considering that the active principle is a resin.

Dr. Lewin has performed many experiments to test the action of kava-kava on animals. He used what he calls kava-extract, a mixture of the two resins. In frogs, the action is slow; 0·1 to 0·2 gramme, given by the mouth, caused, after some hours, a paralysis commencing in the hind limbs, followed by a total abolition of reflex acts, with the exception of the conjunctival reflex, which persisted. The sciatic nerves during this condition react to electrical stimulus, as do the muscles. The heart is not affected. It is remarkable that this condition of the animals persists for days, and then ends in death. If the poison be injected into one leg, local abolition of sensation and reflex action ensues, spreading to the rest of the body as the drug becomes absorbed. The conclusions at which the author naturally arrives from these experiments are, that *a* kava-resin paralyses the ends of the sensory nerves, and also the reflex centres of the spinal cord. In warm-blooded animals, the drug given by the mouth causes first movements of irritation, followed by frequent and shallow breathing, and then deep somnolence: death follows in twenty-four to thirty-six hours by paralysis of respiration, preceded by dyspnœa. One to two grammes of the extract will produce these symptoms in guinea-pigs. The drug is eliminated by the urine. Subcutaneous injection causes prolonged local anæsthesia, followed by the general symptoms just described.

From the physiological action of kava-kava, we should expect, as Dr. Lewin points out, that the indication of a therapeutical use of the plant lies in its local anæsthetic effect on the skin and mucous membranes; in fact, in the same conditions in which cucaine has during the past few years been extensively employed. The value of kava-kava in medicine has, however, still to be determined. In the Sandwich Islands, it is used for the relief of pain; in other places as a diaphoretic; and in our own country it has been advised by Kesteven for 'congestion of the nerve-centres.' Dupouy has spoken well of it in gonorrhœa and chronic cystitis; a drink of the strength of 4 to 8 grammes kava-root to 500 grammes of water (·8 and 1·6 per cent.) relieves chordee and stops the discharge. From Dr. Lewin's researches, we may conclude that an alcoholic extract would be more serviceable as a pharmaceutical preparation. SIDNEY MARTIN, M.D.

ARTICLE 5326.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-seventh Annual Session, held at Baltimore in May 1885.

THE presidential address by Dr. Thomas Latimer, on the Origin and Diffusion of Cholera, gives a concise but very complete sketch of the spread and geographical distribution of every great epidemic or pandemic wave from the earliest authentic records by Sonnerat in 1768 to the present time, compiled from Hirsch, and since 1880 from the *Lancet* and other journals, with a short notice of the recent investigations of Koch, Klein, von Ermengen, V. Richards, Strauss and Roux, Lewis and Cheyne; though the grounds on which Koch and Cheyne maintain the non-identity of the several 'commas,' the very point at issue, are not stated.

The address on the study of the physiological action of drugs by our countryman, Newell Martin, now Professor of Biology at the John Hopkins University, might well be reprinted by the Society for the Advancement of Original Research, as an answer to those who deprecate experiments on animals in the interests of pharmacology. The empirical but not irrational practice of the ancients gave way, he says, in the Middle Ages to a mystic pseudo-science, of which the doctrine of signatures was, perhaps, the culminating development, till Sydenham led the way back to the common-sense method of Hippocrates; but really scientific and rational pharmacology, based on a knowledge of the physiological action of drugs, dates from Magendie's experiments with strychnine. Other brilliantly successful endeavours in this field were those of Liebreich on chloral; and, above all, those of Gamgee on amyl nitrite, which found their complete realisation in the relief of angina pectoris by Lauder Brunton, by no haphazard employment of the drug, or conjecture as to its probable benefits, but by a direct logical inference deduced from the use of the sphygmograph.

Dr. Martin describes his feelings while watching a man dying of tetanus, and his own mental agony in the consciousness that there must be a drug, if we but knew it, which would relieve the spasms, until probably nature had overcome the disease.

He well says, 'It is not mere physical suffering that we labour to diminish. We labour to save *life*—*human life* with all its ties. Were I to see a man tortured with facial neuralgia, and knew that I could relieve him by inflicting equal pain on a dog or a horse, I hardly know what my decision would be. There are men in the world whose sufferings I would rather witness than inflict the same on a dog. But that is not the question which faces our profession in regard to experiments on animals; it is how we may better our knowledge and increase our power to save the life of husband and father, of wife and mother, of the child, in whose life the hearts and hopes of its parents are bound.'

There are several very good clinical reports on the action of such new drugs as cucaine, antipyrin, and kairin, which elicited much discussion. The general feeling was that cucaine is invaluable in operations on the eye, and scarcely less so in those on the throat, larynx, and nasal passages, in which not merely its anæsthetic action, but its power of causing contraction of the blood-vessels, intense local anæmia, and consequent reduction of the swelling of the mucous and submucous tissues, greatly aids in the performance of operations and in rendering them almost bloodless.

The reports on kairin and antipyrin are largely drawn from foreign sources, the general conclusions being that kairin acts more speedily and powerfully, though less permanently, than antipyrin; that both diminish pyrexia, but exert no control over the disease itself; that with careful watching they do not involve danger to life; and that consequently they are preferable to, and equally efficacious with, the cold bath in fevers.

Dr. Cordell speaks very favourably of paraldehyde as a hypnotic, not unlike chloral in the sleep it produces, but to be preferred in cardiac disease, and sleeplessness accompanying respiratory affections, from its exerting no depressing influence on the heart.

Dr. J. N. Mackenzie strongly advocates the heroic treatment of periodic coryza (the so-called hay-asthma) by cauterisation or extirpation of the turbinated bones, a practice recommended in this country by Dr. Woakes, though not so generally in favour here as in America. And among other minor papers we may mention Dr. Cathell's on the value of rectal suppositories of morphia (gr, ⅛) and belladonna (gr. ⅓) in a variety of pelvic and abdominal troubles, some of which had long resisted all other treatment.

In the reports on obstetrics and gynæcology, Dr. Morris deprecates the abuse of pessaries, especially intra-uterine, preferring in most cases cotton tampons, and severely criticises a number of recent operations on the cervix, and especially the Alexander and Adams operation on the round ligaments. In reviewing the treatment of extra-uterine pregnancy, he favours electrolytic destruction of the fœtus before the end of the third month.

Dr. Neale advocates Braxton Hicks' combined version in placenta prævia, and Schulze's method of artificial respiration for the resuscitation of new-born infants. He also describes two cases of *post partum* spontaneous expulsion of submucous non-pedunculated fibroid tumours, and a combination of Simpson's with Tarnier's axis-traction forceps, and concludes by an explanation of the method of abdominal palpation for the diagnosis of presentations, &c.

Among five cases of ovariotomy, by Dr. O'Donovan, is one of peculiar interest, the successful removal of a mass of tumours, weighing in all 10 lbs. and containing epithelial, dermal, and glandular structures of all kinds, one closely resembling pancreas; cartilage, in part truly ossified with Haversian canals; striated and non-striated muscular fibre, and other apparently fœtal structures, in a girl of 13 who had never menstruated.

E. F. WILLOUGHBY, M.B.

ARTICLE 5327.

Ague or Intermittent Fever. By M. D. O'CONNELL, M.D., Surgeon-Major, Medical Staff. Calcutta: Thacker, Spink, & Co.

THIS pamphlet consists of two parts. In the first, the writer endeavours to show that ague and remittent fever are due to different causes; are, in fact, essentially different diseases. He contrasts, 1, their relative and maximum prevalence; 2, the great difference in the rates of their mortality; 3, their liability to recurrence; and, 4, their sequelæ. He is of opinion that remittent fever is much more rare, if its etiology be the same as that of ague, than might reasonably have been expected, and considers that its very much greater fatality is the strongest indication of its independent origin. We are inclined to think, with regard to this factor, that adequate allowance is not made for severity of attack; for in such a disease as small-pox the same applies with even more force, though it is questionable whether anyone would maintain that the pure hæmorrhagic and discrete varieties are not due to the same cause, notwithstanding the fact that there is little or no similarity between them except as regards their initial symptoms. The author lays, perhaps, too much stress on the difference between their respective sequelæ, a difference which strikes us as being rather one of degree than of kind. This would apply also to their morbid anatomical characteristics, to which, by the way, the writer makes no allusion.

In Part II. Dr. O'Connell endeavours to show that certain meteorological conditions, by offering obstruction to excretion of water from the blood, produce intermittent hydræmia, which in its turn produces all the conditions, enlarged spleen, leucocythæmia, &c., known to supervene upon ague. He has found that ague is most prevalent in those months showing a consistently high temperature, at or about 80° F., with small diurnal range, and humidity approaching saturation, and is least so when the opposite conditions prevail; also that the seasons when it is most prevalent correspond with the seasons when the climatic conditions offer most obstruction to cutaneous secretion, and *vice versâ*. The superfluity of water in the blood is said to increase tissue-change, and is considered to be a cause of fever, in that it distends the superficial capillaries to such an extent as to 'arrest evaporation, the cooling function of the skin.' Charts are introduced, from which it can be seen that the climatic conditions producing this effect vary according to the period of the day; this variation producing a quotidian, tertian, or quartan intermittent hydræmia, according to the condition of the blood in particular individuals, those whose blood is in a less watery state requiring more time for the production of an equal degree of hydræmia. That recovery so immediately follows the removal of a large quantity of water from the blood, lends support to the writer's view that increase of temperature in ague is due to hydræmia. He conjectures that permanent hydræmia does not follow permanent rise of temperature, because the aqueous condition of the blood may possibly 'interfere with the functions of the red corpuscles as oxygen-carriers.'

Those points which have led to most of the controversy as regards the etiology of ague are briefly passed in review, and, in connection with this matter, the author thinks it difficult to understand, seeing that it is universally admitted that change of climate cures, how climate can affect it if due to a microbe and not to meteorological conditions. Hence it will be seen that, in respect of the origin of ague, the writer entirely dispenses with the bacillus malariæ hypothesis, but at the same time is not an advocate of the 'chill' theory propounded by some investigators.

R. M. BRUCE.

ARTICLE 5328.

Ricerche Cliniche sui Disturbi Visivi nell' Epilessia. Pel DOTT. G. D'ABUNDO. Napoli. 1885.

DR. D'ABUNDO'S observations were made on forty patients of the Neapolitan Psychiatric Clinic. A preliminary glance is given in this essay at the labours of other observers.

The author has not been able to confirm the observation of Siemens, that the dilatation of the pupil in epileptic fits is preceded by a momentary contraction. Nor does he find himself in accord with L. Carter Grey, who found the pupils more dilated than normal during the intervals. One of the chief points of interest that the author has himself remarked in regard to the pupil, is the extreme slowness with which it contracts to light during the coma and sleep that follow the attack. Another point is the influence of mental depression. After mild epileptic attacks, if there be mental depression, the pupil is slightly contracted. Under like circumstances, if the attack have been severe, the contraction is considerable. Rapid changes in the size of the pupil after epileptic attacks are, according to the author, neither constant nor frequent.

By means of the ophthalmoscope, the author has examined the condition of the retinal vessels. He finds that after an epileptic fit the vessels of the fundus are congested. The degree of congestion is in proportion to the severity of the attack. The duration of the congestion also is determined by the same circumstance. Mental depression increases both the duration and the degree of congestion. There is not, as a rule, any difference to be observed between the two eyes in this respect. When one knows the normal condition of an epileptic's retinal vessels, if the vessels be found congested, it may be inferred with some probability that he has had an epileptic attack.

Touching the visual field, the conclusions are somewhat akin. Contraction of the visual field, in regard both to its extent and to its duration, is in proportion to the severity of the attack. Mental depression also accentuates the effects of the attack. There is no marked difference between the two eyes. The contraction of the visual field never shows itself in the form of hemianopsia. According to the author, there is a fixed relationship between the disturbance of the retinal vessels and the disturbance of the visual field.

Visual acuity is submitted to a like examination with corresponding results. It is diminished in proportion to the intensity of the attack and the mental depression. In children, however, after slight attacks, this disturbance was not constant.

Disturbances of the chromatic sense were somewhat variable. They were frequently transitory, especially in attacks of slight intensity. In *petit mal*, the results were altogether negative.

After some remarks on the mental peculiarities of the patients, and on the clinical history, the author goes on to the interpretation of results. He seeks to show, both from the condition of the fundus of the eye, and from *post mortem* examination, that the pathological condition in epilepsy is one of intense cerebral congestion. The congestion, according to the *post mortem* examinations, was most marked in the motor convolutions, in the pons Varolii, in the medulla oblongata, and in the spinal cord; though a like condition was found in the kidneys, lungs, and most of the other organs.

Visual hallucinations are supposed to be dealt with in the portion of the essay concerning the 'psychical examination;' but very few words are said on the subject. WILLIAM R. HUGGARD, M.D.

ARTICLE 5329.

A Guide to Therapeutics. By ROBERT FARQUHARSON, M.P., M.D., &c., late Lecturer on Materia Medica at St. Mary's Hospital Medical School. Fourth Edition. London: Smith, Elder, & Co. 1886.

ALTHOUGH of late there has been no lack of works of all sizes and dimensions on therapeutics, the number of such books adapted to the use of students, and conveying the necessary information in a form and language at once clear and concise, is not by any means out of proportion to their wants. The author of the volume before us has imported into his work a good deal of originality in the matter of arrangement, with a view to facilitating the comprehension of the physiological and therapeutical actions of drugs respectively.

In the preface, he echoes the general expression of regret at many comparatively useless preparations having been left unexpunged from the last edition of the *Pharmacopœia*; and, doubtless, from a purely scholastic point of view, the indulgence shown by the Medical Council towards these antique formulæ is to be regretted. It is, however, very probable that examiners may be found disposed to minimise this inconvenience, by confining their questions to the more practical and important subjects.

The opening chapters on general rules are very good, and the student is warned of the peculiar and ill-understood effects of habit, idiosyncrasy, &c., in so far as they bear on the medicinal action of remedies. The recent additions to the *Pharmacopœia* are duly discussed, and a chapter is devoted to non-officinal drugs, while another contains a table of poisons and their antidotes, arranged for easy reference. Prescriptions are given, where necessary, although the author insists on the necessity for private initiative in such matters on the part of the more advanced students and practitioners in general. A series of questions on Materia Medica and therapeutics complete the work, which is by no means bulky, and has the advantage, moreover, of being clearly printed on substantial paper.

ARTICLE 5330.

The Essentials of Materia Medica and Therapeutics. By A. B. GARROD, M.D., F.R.S., F.R.C.P.; Consulting Physician to King's College Hospital; late Professor of Therapeutics at King's College. Eleventh Edition, revised and edited by NESTOR TIRARD, M.D.Lond., M.R.C.P., Professor of Materia Medica and Therapeutics in King's College, London, &c. London: Longmans, Green, & Co. 1886.

THE eleventh edition of this most popular and useful book has lately been published, containing all the new preparations and drugs of the *British Pharmacopœia* of 1885. This new edition is no larger than the previous, as much space has been gained by cutting out what was obsolete, and by altering the type for officinal preparations. The chemical part has been thoroughly revised, much re-written, and it is chiefly on this account that the work has been so esteemed. The article on therapeutics in general, showing how medicines should be prescribed, and the fallacy of the old idea of 'incompatibility' of drugs, is most valuable to students of medicine; whilst the chapter entitled 'Classification of Medicines' is in itself a valuable work. An appendix, containing an account of the value of the mineral spas resorted to most frequently, by those of our own country, is an useful addition to the book; and so is the chapter containing the mode of preparing the various test-solutions, used for the analyses of substances contained in the *Pharmacopœia.* The new editor, Dr. Tirard, is to be congratulated on the manner in which he has performed his part of the work. RICHARD NEALE, M.D.

ARTICLE 5331.

The Recent Progress of Obstetric and Gynæcological Medicine. An Address by THOMAS MORE MADDEN, M.D. Dublin: Fannin & Co.

THE author lays claim to priority in the 'expression of the placenta,' the operation of version as a substitute for craniotomy, the preventive and the immediate reparative treatment of perineal lacerations, the revival of the timely employment of the forceps, the prophylaxis of *post partum* hæmorrhage and countless other improvements in the management of childbirth, the credit of all which is elsewhere claimed on behalf of the Dublin School of Midwifery. He then proceeds to give a brief retrospect of some improvements which have of late years been effected in obstetric practice. The mortality in recent midwifery practice, the author shows, is diminishing, partly due no doubt to the more frequent employment of forceps. Dr. J. Hall Davis, in his work on *Difficult Parturition*—published twenty-six years ago—informs us that he only found it necessary to use the forceps on seven occasions in 7,371 deliveries, or once in every 1,053 labours; whereas Dr. Johnston, the late master of the Rotunda, records 7,027 cases of delivery in six years, where forceps were used in no fewer than 639 cases, or about once in every 11 cases, with only 39 deaths.

Dr. More Madden considers the preference generally given to Tarnier's axis-traction forceps over Barnes's originally double-curved or his own short forceps, to be a mistaken one. He regards Tarnier's forceps as a needlessly complicated, unwieldy, and ill-contrived piece of mechanism.

A caution is given as to the needless employment of intra-uterine injections in the puerperal state, more especially of bichloride of mercury.

The author insists upon the necessity of gynæcological specialism, Dr. Clifford Allbutt notwithstanding, and advocates the training of medical women for India. ARTHUR W. EDIS, M.D.

NOTES ON BOOKS.

ARTICLE 5332.

Transactions of the Willan Society of London. Edited by JAMES STARTIN, vol. i. pp. 107. 1885.

THE Willan Society is 'a society for the study of dermatology and syphilis,' which was formed by the staff of St. John's Hospital in 1883. The present volume contains the transactions of the Society during its first session, and includes papers on various subjects in connection with syphilis and diseases of the skin, by Mr. Startin, Mr. Milton, Dr. Robinson, Dr. Drysdale, and others, together with a report of the discussions which followed.

ARTHUR COOPER.

ARTICLE 5333.

Clinique Obstétricale. Par le Dr. RODRIGUES DOS SANTOS, Accoucheur Directeur de la Maternité Municipale de Rio de Janeiro, &c.: with a Preface by Dr. ADOLPHE PINARD, Agrégé à la Faculté de Médecine de Paris, Accoucheur de l'Hôpital Lariboisière, &c. Paris: Octave Doin, Editeur. 1886.

THIS excellent manual on the art and practice of obstetrics is from the pen of one of the most promising pupils of Dr. Pinard, of Paris, the author of a well-known treatise on abdominal palpation as a means of diagnosis. Under these circumstances, this useful and practical procedure is naturally allowed a fair share of attention, and we can recommend it to the attention of English obstetricians.

It is gratifying to see that our own acknowledged authorities are so well known and appreciated abroad; quotations from their works are frequent, and their opinions evidently command respect. So far as the science of labour is concerned, the completeness of the descriptions and the clearness of the explanations render the work worthy of perusal, even on this side of the channel. The method of conducting a labour abroad, however, differs so much from the English plan, that this part of the book is lost to Englishmen. Some of the illustrations are evidently derived from Dr. Pinard's *Traité du Palper Abdominale*, but all are well drawn and judiciously selected.

ARTICLE 5334.

Report of the 17th Session of the Heidelberg Ophthalmological Society. 1885.

THE work done by the Society during the past year is certainly fully equal to that of previous sessions, and the volume before us contains many valuable papers. Among the more important we may mention the following—Landolt 'On Insufficiency of the Internal Recti'; Sattler 'On the Micro-organisms found in Pus from the Lacrymal Sac, and the Effect of Antiseptics upon them'; Schmidt-Rimpler on School-Myopia'; and papers bearing on Glaucoma, by Pflüger, Kuhnt, Manz, and Holtze. We need not further comment on these, as we shall shortly give abstracts of them. W. ADAMS FROST.

ARTICLE 5335.

Hamamelis Virginica. By M. CAMPARDON. Paris: 1885. O. Doin.

THIS pamphlet gives us an accessible form of the communication made by its author to the Paris Therapeutical Society. M. Campardon dwells on what he calls the 'discongestioning properties' (*propriétés décongestionnantes*) of this vegetable product. He recommends it for fevers, hæmorrhage, exaggerated arterial tension, varicose veins, and congestion. In anæmia and aortic valvular lesions it ought not to be used, as it has a depressing influence. Dr. Campardon prefers the tincture of hamamelis virginica to any other form; he gives it in doses of five drops, repeated according to circumstances. W. VIGNAL.

ARTICLE 5336.

Au Hasard du Chemin. By Professor and Madame STANISLAS MEUNIER. Paris: Rothschild. 1885.

PROFESSOR AND MADAME STANISLAS MEUNIER offer a charming book to natural history students entitled 'Au Hasard du Chemin.' Both professional and amateur students of zoology, botany, and geology will find this volume as interesting and agreeable to read, as it is instructive from a scientific point of view. The scientific accuracy of the descriptions are rendered still more intelligible by the literary skill, which is a valuable feature of the book. Six hundred and sixty-six illustrations enrich the text of 'Au Hasard du Chemin.' W. VIGNAL.

ARTICLE 5337.

Elements of Practical Medicine. By ALFRED H. CARTER, M.D.Lond., M.R.C.P., Emeritus Professor of Physiology, Queen's College, Birmingham, &c., &c. Fourth Edition. London: H. K. Lewis. 1886.

THIS well-known little manual has now run to a fourth edition, and we note with satisfaction that the tendency of books of this description to augment unduly in size, has been carefully controlled. The same qualities which have rendered past editions popular with students, will doubtless ensure the same for the edition before us. Some parts of the book have been re-written, but no noteworthy alterations have been made either in the plan or in the nomenclature. The author has not thought it necessary to allude to myxœdema, although this disease is one about which candidates may fairly be questioned at present. There is a copious therapeutical index at the end of the book, which may render the work useful to others than students, while the latter are presented with models of the art of prescribing which they would do well to imitate.

NEW INVENTIONS.

ARTICLE 5338.

MOORE & LORRAINE'S PATENT POULTICE.

UNTIL the Charta Sinapis was introduced into pharmacy by a well-known French firm, the mustard-poultice was an ill-favoured kind of application, even if applied by an experienced nurse. Now we can have in its place the elegant and handy mustard-paper. The linseed-meal poultice is, if possible, an uglier, more disagreeable, useless, and mischievous appliance than the mustard-poultice, unless prepared by an expert. Abernethy, and surgeons of a later date, have frequently reminded their pupils that the art of making a common poultice is not sufficiently taught in the course of medical education, and is harder than many operations. The discomfort of a poultice improvised by a sick unskilled traveller for his own use, or by a kind but inexperienced attendant on an invalid, is only too well-known. Messrs. Moore & Lorraine have contrived a patent poultice of the most elegant and portable form. It possesses all the advantages over the older kind of linseed-meal poultice that can be claimed for the mustard-paper over the mustard-poultice. The meal, which contains the whole of the original oil, is neatly enclosed in a thin muslin case, and three separate poultices are packed in a tin box, very convenient for the cupboard or portmanteau. When required for immediate application, the poultice is placed on a plate, and half-a-pint of boiling-water is poured over its surface; and then mustard may be sprinkled on, if necessary. Poultices of any size may be obtained, and any kind of medicated poultice made to order, by applying to the manufacturers, at West Drayton, Middlesex.

ARTICLE 5339.

PURE TEREBENE.

WE have received from Messrs. Burroughs, Wellcome, & Co. an excellent specimen of pure terebene. It is colourless, tasteless, and absolutely devoid of irritating properties, whether taken internally or used in the form of spray. It is a valuable remedy for chronic bronchitis, incipient phthisis, dyspepsia, and many affections of the bladder and urinary organs. The importance of obtaining an absolutely pure preparation of pure terebene for the treatment of these affections cannot be overestimated. Messrs. Burroughs, Wellcome, & Co. deserve the thanks of the medical profession for supplying us with so pure an article. It is by far the best pure terebene we have seen.

ARTICLE 5340.

A NEW SYRINGE.

MM. CLASEN AND GUDENDAG, instrument-makers of Paris, have submitted to the approbation of the Paris Academy of Medicine a new form of syringe for hypodermic injection, which was suggested to them by the construction of Delstanche's aspirator. In this instrument the piston does not come into contact with the injection-fluid, so that both are protected from the changes which damage instruments of this kind. A small reservoir for holding the fluid is placed at right angles to the body of the cylinder.

ARTICLE 5341.

PULVIS PANCREATICUS ALKALINUS BENGER.

MOTTERSHEAD & CO. (Manchester) have forwarded us specimens of their peptonising powders, prepared by Mr. Benger. These powders are, in fact, the preparation described by Sir William Roberts, in his address at the meeting of the British Medical Association at Cardiff. They consist mainly of the purified pancreatic enzymes duly alkalised. These powders are very convenient in form, one powder sufficing to peptonise a pint of warm milk slightly diluted. The whole operation does not last more than ten minutes for ordinary purposes of peptonisatiòn, and when boiled the milk may be set aside till the further action of the enzymes is arrested. The portability and slight bulk of these powders make them very convenient for many purposes, and they are coming into extensive use.

ERRATUM.

AT page 87 of the LONDON MEDICAL RECORD for Feb. 15, article 5190, 'Report of the Committee on Disinfectants of the American Public Health Association,' Dr. Dougall's name is misquoted as 'Douglas.' We are the more anxious to correct this error as the experiments to which reference is made cost Dr. Dougall much trouble and time, and have been confirmed by all subsequent experimenters.

MISCELLANY.

THE Municipal Council of Paris has authorised the expenditure of 4,500 francs (£180) for drawing up complete and correct statistics of the Paris cholera epidemic of 1884.

THE *North German Gazette* announces that anyone signing as M.D., being only qualified by a diploma *in absentiâ* obtained in America, will be proceeded against. There are in Berlin 3,400 of these so-called doctors.

A NEW pharmaceutical journal has appeared, entitled *Archives de Pharmacie*. It is founded by the former contributors of the *Répertoire de Pharmacie*. It is edited by M. Crinon, and will appear monthly.

THE Municipal Council of Marseilles has voted 60,000 francs for the benefit of the sufferers from small-pox; 30,000 francs (£1,200) will be distributed among the sufferers; the remaining sum will be used for disinfecting their clothes, dwellings, &c.

WINTER COMFORTS FOR MEDICAL MEN.—In the *Lancet*, January 1885, p. 38, Mr. Pridgin Teale writes on the subject of winter comforts. There are two very excellent methods of keeping the feet warm; 1, by means of Jäger's sanitary boots, which are made of woven woollen material lined with flannel, soled and tipped with leather; 2, by the adoption of American snow-boots, known as 'Jemimas'; these are made of felt throughout and are shod like a golosh. They cost about 7*s*. 6*d*. If a medical man pays his visits in an open gig he returns from each patient to a cold seat. This may be obviated by having an India-rubber hot-water bag placed on the vacant cushion and covered by a rug. If a railway journey have to be taken at night, and the temperature be low, it is a good plan to lie down on the seat and to place the warm bottle edgeways along, so that it may be leant against and give warmth to the whole back. Another suggestive point is that those who are subject to be called up frequently at night should always keep their bedroom fire alight. An ordinary good stove will remain alight for several hours if properly attended to just before going to bed. The author gives a good hint about chilly beds. When in Scotland during a cold April, on a fishing holiday, night after night he could hardly get warm in bed, owing to a rapidly conducting mattress; at length he found that, by spreading a thin worn-out blanket over the mattress, the evil was at once remedied.

AN important work has just been published by Delahaye and Lecrosnier, Paris. It is entitled *Traité de Médecine Légale de Jurisprudence Médicale et Toxicologie*, by MM. Legrand du Saulle, physician at the Salpêtrière Hospital, G. Berryer, of the Cour d'Appel, and G. Pouchet, Professeur Agrégé of the Paris Medical Faculty.

MADAME RIBARD, M.D., of the Paris Medical Faculty, has left Paris for Tonquin, having been appointed physician to the family of M. Paul Bert, the new Governor-General of that French colony. Madame Ribard is also entrusted with the organisation of an Ophthalmic Hospital and a vaccine establishment.

M. **RECLUS** showed, at a recent meeting of the Paris Surgical Society, a female patient who presented a curious lesion. One of her legs was constricted by a congenital fibrous band. Last year M. Reclus removed two-thirds of the band, and subsequently the remaining third. The success resulting has been perfect. [This case evidently belongs to the same class as those in which amputation is produced *in utero* by constricting bands.]

THE FRENCH SURGICAL CONGRESS will hold its second meeting at Paris from Oct. 18 to Oct. 21. The subjects contained in the programme are:—Nature, Pathogenesis, and Treatment of Tetanus; Nephrotomy and Nephrectomy; Orthopædic Resections; Surgical Operations in Irreducible Dislocations. Papers on other subjects cannot be read at the Congress unless the conclusions of the authors are forwarded to the secretary, Dr. S. Pozzi, 10 Place Vendôme, Paris, between July 1 and July 13, 1886. Papers that are not read will not be printed in the transactions.

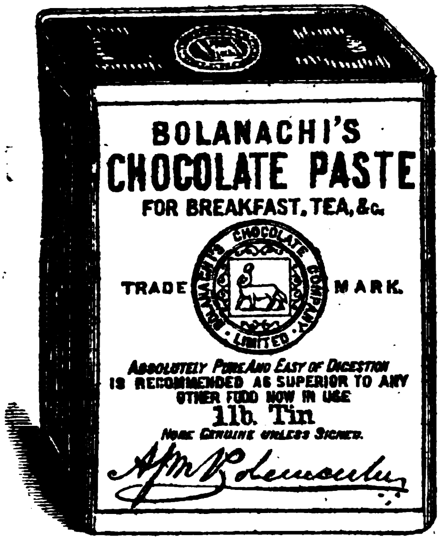
M. **GERMAIN SÉE**, in a communication to the Académie de Médecine on the treatment of obesity, condemned the practice of bleeding, which does not diminish the quantity of adipose tissue, but, on the contrary, is favourable to its development. M. Déchambre, at a subsequent meeting of the Academy, referred to M. Sée's communication, and mentioned facts obtained by experiments made by M. Vulpian and himself, which confirmed the truth of M. Sée's observations. A quantity of blood, equal to one-fifth of its normal weight, was removed from a dog. The animal, before the experiment, weighed 9 kilogrammes, but in fifteen days its weight increased to 13½ kilogrammes. In another experiment, a dog was in fifteen days deprived of a quantity of blood equal to one-ninth of its original weight; that is, 5 kilogrammes; it weighed 6 kilogrammes and 800 grammes after the experiment.

FEMALE MEDICAL STUDENTS IN PARIS.—A report drawn up by Professor Béclard, Dean of the Paris Medical Faculty, states that there are 103 ladies now studying medicine in Paris; 76 are Russians, 8 are Frenchwomen; the latter have obtained the two *baccalaureat* diplomas. Eighteen medical diplomas have been gained during a period of seven years. The lady-doctors practising in Paris are Mme Madeleine Brès, the first who took a medical degree, Mdlle. Clarisse Danel, Mlle. Bouchier, Mlle. Verneuil, a specialist for cerebral affections, Mme. Rosa Perrée, Mme. Inès Gache-Sarrante, Mdlle. Olga Kraft, and Mme. Ribard, who was one of the first women who filled the post of interne (house-surgeon) at a hospital at Nantes.

POWDERS OF RHUBARB, JALAP, AND CINNAMON. At a recent meeting of the Belgian Royal Academy of Medicine, M. Gille read a report of M. Herlaut's researches on the officinal powders of rhubarb, jalap, and cinnamon. The results obtained demonstrate that these substances vary even in the same species, in the same organ, according to the climate, soil, and age of the plant. The component tissues of the plant and their contents exhibit characteristics useful in indicating the qualities of certain drugs obtained from the vegetable kingdom, also in helping to detect adulteration. In some instances these indications are more useful than those given by chemistry, as in the detection of flour or calomel. But, generally, the microscope is not so valuable a source of information as chemical analysis.

LARVÆ OF FLIES IN THE STOMACH.—At a meeting of the Berlin Medical Society, Lubinsky read notes of a case of living larvæ of flies in a human stomach. A man brought to the Polyclinic of the University a number of larvæ, which he said he had vomited the same day; they were living when expelled. The patient admitted that he drank to excess. Some time before, gastric troubles commenced and had recently increased; on one occasion he was seized with vertigo and fell down in a state of syncope. A few weeks before attending the consultation, he frequently had eaten large quantities of raw meat; sickness, gastric disturbance, and vertigo followed, with extreme thirst; he vomited food taken during the day, also small animals. These latter were examined and found to be larvæ of flies perfectly developed, from eight to fifteen days old. It is supposed that the patient swallowed, with the raw meat, a certain number of flies' ova which further developed in his stomach.

CULTIVATION OF PATHOGENIC MICRO-ORGANISMS.—Dr. E. Bumm, of Würzburg, advocates, in the *Deutsche Med. Wochensch.*, the use of human blood-serum, adopted by Koch, asserting that it is the only convenient and safe method for producing some specific human micro-organisms. He obtains the serum from the placenta, whence alone he thinks a sufficient supply can be got under ordinary circumstances. He has lately thus cultivated the gonococcus, and, as compared with cultivation with the blood-serum of animals, he finds the results most satisfactory, being able to obtain successive generations. At the very outset, the advantage of the method is apparent in the immediate spreading of the gonococci from the periphery of the pus to the surface of the serum. His method is as follows. He obtains the blood while the placenta is still in the uterus. The umbilical cord having been in the usual way tied and cut, the rest of the cord is cleansed with corrosive sublimate and sterilised water, compressed with the fingers, and again cut above the ligature. The end of the cord is introduced into the neck of a glass retort, the pressure of the fingers is removed, and fifteen to twenty cubic centimètres of blood flow into the vessel at once, and, by waiting for successive pains, forty to sixty cubic centimètres. The blood must be allowed to stand undisturbed for eighteen to twenty-four hours. If proper coagulation follow, fifteen to twenty cubic centimètres of perfectly clear serum may be thus obtained.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VERNEUIL ON FASHIONS IN SURGERY ('PRURIGO SECANDI').

M. Verneuil, the eminent surgeon of the Paris School of Medicine, gave a very brilliant address as president of the meeting of the French Association for the Advancement of Science at Grenoble. He devoted himself to a review of the position of surgery at the present day, and delivered a most witty attack on fashions in surgery. He said that even in the present day *Prurigo Secandi* is a sporadic, endemic, and epidemic disease, for which no vaccine has yet been found. It is not difficult, he said, to prove this statement. In the seventeenth century, it became the fashion to transfuse. The *furore* became so great that it had to be stopped by an edict of Parliament, dated 1668. In the eighteenth century every man who had fallen on his head, and was suspected to have cracked his skull, was trephined. During the wars at the end of the last century and the beginning of this, every gunshot wound of the extremities was treated by amputation. He went on to say that at the time when he entered the medical profession, tenotomy was the rage; every tendon, every ligament, every muscle in every region of the body was cut. Squinting, stammering, spinal curvature, bandy-legs, even deafness, were supposed to be thus cured. The subcutaneous method was then the saddle which fitted every horse: it was the operative panacea. A little later on he saw the birth and prosperityof resection. It flourished chiefly in England and Germany.

Above all, in the special departments, ultra-operators are to be found. For when one specialist operates, all the specialists operate. If one specialist cut something, all his colleagues cut it also, only they cut it in a different way; and, as is evidenced by the catalogues of our large instrument-makers, with an instrument which is not quite the same. If a museum of surgical instruments were to be founded, immense cases would be required for the exhibition of all the lithotomes, urethrotomes, hysterotomes, and all the other machines with names ending in *tome*, including those little innominate instruments destined, he believes, for incising strictures of the nasal canal, strictures which, it is no slander to say, can hardly ever exist, or do not need to be cut when they are present.

Gynæcology and ophthalmology compete for first place in this new race, but he looks for the triumph of the former. We have seen, he says, in these later times, without counting cauterisations which are often useless, and dilatations of the cervix, which are of very doubtful utility, the invention of Emmet's operation, of Battey's or Hegar's operation, of Alexander's operation, and so on. The reviews and journals report, and, generally praise them; it becomes imperative to publish facts in support, and a gynæcologist runs the chance of being considered a man of very little account if he have no observations to produce.

The ease with which certain methods become popular is truly surprising. As an instance, he cites the scraping of cold abscesses. The idea is theoretically defensible, but reflection inspires certain reservations, and it would seem prudent to appeal to experience. To obtain this, however, it would be necessary to wait, and the present generation will not in fact submit to this. Therefore we scrape, and scrape, and scrape, and those who do not scrape are said to be retrograde and behind the day; and so, as we go on scraping, we penetrate even into the spinal canal, and, although the operation gives encouraging results (that is the regular formula), the scraped patient goes to join his ancestors in a better world.

If, not without reason, it were objected that the above operations are good and deserve to be maintained, he would none the less maintain that they have been singularly abused; that is, we have transfused too much, trephined too much, tenotomised too much, resected too much, dilated too many strictures, excised the iris too often, operated a great deal too much on the female pelvis, scraped cold abscesses a great deal too much. If conclusive proofs of this abuse are wanted, he would merely recall the fact that in a great country like France, with thirty-seven million inhabitants, the operation of transfusion is now performed not more than half-a-dozen times, the operation of trephining not more than a dozen times in the year; that in every country nowadays the spinal and lingual muscles of the humpbacked and stammering are left alone; that in England, where resection was common, it is now hardly ever performed; that the eye-surgeons, who not long ago could not believe in the success of a cataract operation without iridectomy, now nearly all agree to leave the iris uninjured, and that the famous scraping is every day losing ground.

'If time permitted,' he said, 'I might bring under notice all the retreats effected by these knights of the bistoury; you would find that after having operated for some time at random these great *sécateurs*, perceiving how mediocre were their results, paused at last; but the pause ought to have been at the commencement. Good faith and common sense will lead every surgeon to see that an attentive study of the facts, with regard to the surgical operations recently revived or introduced, proves that a number of them not only have served no useful purpose, but were, in fact, evidently sterile from the beginning. A great fuss has been made in recent years about extirpations of the larynx, the pharynx, the stomach, the uterus, the kidney. In how many of these patients has the cure been permanent? How many have been in any way benefited by these terrible undertakings? Hardly 10 per cent. I admit that for these ten the operation has been very serviceable; but is it possible to deny that for the remaining ninety it was a mistake? I invite you to study and criticise the following piece of reasoning. Take a hundred cases of a certain disease; at a certain epoch operations would be performed in a half the cases, twenty years later in only a quarter. If the results of the two series be equally fortunate, I conclude, that of the fifty operations during the first period, twenty-five at least were superfluous.'

At a recent meeting of the Surgical Society M. Trélat showed a pair of forceps invented by M. Ségond for the purpose of preventing ligatures from coming off. These forceps are especially useful for tying the pedicle after hysterectomy.

Article 5343.

HARRISON AND CLUTTON ON EXTERNAL URETHROTOMY AS AN AID TO URETHRAL OPERATIONS.*

Internal urethrotomy has lately found some strong opponents; and we may quote a very effective passage from Mr. Dobson's *Ten Years of Surgical Work* recently published. 'I have a dislike, perhaps a prejudice, to the operation, as I think it is not so free from danger as it is sometimes thought to be.' He then narrates a case of a patient of his who went to a skilful London surgeon to be operated upon, and died forty-eight hours after the operation. 'I have always felt that there must be some considerable risk associated with the operation, when I have known patients actually die in a few hours from the mere passing of a catheter where there was no bleeding or evidence of laceration; and many times have I seen (and all surgeons must have had similar experience) severe rigors and serious symptoms follow catheterism, not in old prostatic cases only, but in young and middle-aged men with stricture.' Mr. Reginald Harrison also points out that internal urethrotomy does not furnish better permanent results than other methods of treatment; some of the worst cases of stricture with which he has had to deal being those where the stricture has been divided from within. And he points out that the use of the catheter is not dispensed with after internal urethrotomy.

Considering the subject carefully, it seemed that, if it were possible to assimilate the performance of internal urethrotomy with perineal section or lithotomy, we might mitigate, if not entirely remove, the more prominent objections to internal urethrotomy. He then points out what these objections are. Rigors and high temperature seem to be frequent, if not constant, concomitants of the operation; and he quotes Mr. Berkeley Hill, who found that, in thirty-eight urethrotomies, elevation of temperature and rigors occurred always when a catheter had not been tied in for the first twenty-four hours. After operations for stone, rigors are very rare unless there be some complication, and after perineal section the same may be said. He quotes also two cases of ruptured urethra, in one of which median urethrotomy was performed at once for complete rupture, and the patient recovered without any stricture; whereas in the other there was incomplete rupture, and a catheter was left in, but a very troublesome stricture resulted.

It is strange that we have so few proofs of complete cure of stricture, but one is mentioned here which is of value. A man was operated on by Mr. Bickersteth, and Syme's perineal section was performed for stricture; and when he died, eighteen years afterwards, from other causes, no stricture could be found, though the urethra was specially examined for it at the *post mortem* examination.

Mr. Harrison now gives a number of cases in which he has performed combined internal and external urethrotomy, and certainly the results are excellent. He has operated on twelve occasions in this way, without meeting with any discouragement. He notes that there has been in no case any rigor or urinary fever, of that special form which frequently follows internal urethrotomy. In the next place, it has been possible to put into the urethra at the point required, and to the extent necessary, a 'cicatricial splice,' as Gouley, of New York, has called it, or an interval of new tissue formed and completed without contact with urine or other possible source of irritation. ...

The character of external urethrotomy he performs is that of a perineal puncture with a knife, completed with a probe, along which a drainage-tube is passed into the bladder. It is preceded by the performance of internal urethrotomy, which at once admits the passage of a good-sized sound. What is to be done with those cases where it is found impossible to pass even the smallest instrument? He denies that they exist in his experience, but he refers here to cases of stricture where the urine can pass, and does not allude to cases of retention where the operation should, we think, be taken in hand without unreasonable delay. The drainage-tubes he uses are gum elastic, four or five inches long, and somewhat less in thickness than ordinary index fingers.

It is along the same lines that Mr. Clutton treats fistulæ of the penile portion of the urethra (*Transactions of the Medical Society*, vol. vii.), and we have here a valuable record of the process of the principle above argued out. In his case, there were two troublesome fistulæ which were a constant source of danger to the patient, and were accompanied by cystitis and shattered health. Mr. Clutton made an opening into the urethra from the perinæum; and, when this was firmly established, a plastic operation closed the fistula in front of the scrotum. Three weeks later, the patient was passing urine by the urethra without any escaping by the perinæum or through the fistula; but subsequently, on moving about, a pin-hole aperture was discovered in the posterior of the two penile fistulæ. Six months afterwards, he had still the slightest moisture after micturition from the same minute opening. He was, however, so happy and comfortable, and found so little inconvenience from it, that he decided to remain without further treatment.

W. W. Wagstaffe.

Article 5344.

MARAGLIANO ON ANTIPYRESIS.

In a paper read before the Eleventh Congress of the Italian Medical Association (*Gazz. Med. Ital. Lombard.*, February 6 and March 13), Prof. Maragliano speaks of the importance of antipyresis, and citing the conclusion of Filehne, that antipyretics act by regulating the temperature, he very justly observes that this is not an explanation. The scientific basis of antipyresis is not understood, because we know little of the causation of fever. Two modes of origin of fever must be considered, retention of caloric and its production. The first was sustained by Traube and denied by Liebermeister, and again advanced by Winternitz, who believes in multiple heat-producing centres, and who attributes the retention of heat to diminished secretion. Studying with the plethysmograph the state of the vessels before and during the onset of fever, Dr. Maragliano fully confirms the hypothesis of Traube. Constriction of vessels is found to precede the rise of temperature, and to reach its maximum with the rise; the febrile invasion is preceded and accompanied by constriction of vessels, and *vice versâ*. Since 85 per cent. of the caloric is dispersed by the skin, he notes the importance of this fact in the dissipation of caloric, and believes that one of the factors of fevers is the retention of caloric. He thinks, also, that there can be no doubt as to the production of caloric in fever; but whether this is cause or effect, is open to question.

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* 1. Harrison, Reginald.—Paper reprinted from the *Brit. Med. Jour.*, July 1885. 2. Clutton, H. H.—*Transactions of Medical Society of London*, vol. vii.

In studying the action of antipyretics, Professor Maragliano says that their influence on the calibre of the vessels, on the dissipation of caloric, and on its production, has to be considered. His experiments were carried out on antipyretic subjects with salicylate of soda, kairin, antipyrin, and thallin. All these were found to cause dilatation of the cutaneous vessels; he therefore thinks that the most active antipyretics cause defervescence by this dilating action. Calorimetric studies on the healthy and the sick prove that antipyretics produce increased dispersion of caloric, the fever returning when the dispersion is diminished. He refers to the studies published by Queirolo with the plethysmograph in 1884, and notes that Murri had before this observed dilatation of the vessels in the defervescence caused by kairin. He mentions the studies on the influence of antipyretics on the activity of the tissue-change; the experiments were made on the healthy, the nitrogen excreted in the urine being determined and found to be considerably lessened. The loss of carbonic acid was also diminished; and he concludes that antipyretics determine a fall of temperature by increasing the dispersion of heat and by lessening its production. He distinguishes between fever and its pathogenic agent, and holds that the antipyretic may not act directly on this agent, but may have an independent and therefore transitory action; but that it may act also on the pathogenic agent, in which case it would give rise to lasting apyrexia. The action is probably developed by means of the vaso-motor and trophic nerves; and if trophic action of the bulb exist (Fano), it is possible that the connection between the trophic and the vaso-motor action produced by antipyretics may there be found.

Fever cannot be useful, since it does not prevent the growth of the micro-organisms. As well might all the symptoms of a disease be said to be useful. He thinks the assertion gratuitous, that the disease is of longer duration if the fever be controlled, and holds that antipyretics are not useless; for, admitting even that patients do not die from the high temperature, it is a fact that complications are more frequent and grave as a consequence of it. All agree that high fever with or without complications must be controlled. Antipyretics may be badly applied and abused, but, when fever is better understood, the indications for their employment will be more easily seen. Antipyretic treatment is necessary: 1, when the temperature exceeds 39°·5 (103° F.); 2, when the fever is of long duration; 3. when there are complications, so as to economise the strength of the patient and to prevent disturbances of the circulation and respiration; 4, according to individual conditions. Maragliano thinks direct subtraction of heat useful if available, since the skin is then excited and reaction provoked. Leiter's tubes are therefore valuable. The cold bath is not always possible, and then we may have recourse to antipyretic remedies, always employing due caution, and having regard to the individual tolerance. Quinine is often to be preferred, because of its undoubted action on some infective principles. Among the derivatives of chinoline, thallin is the best, because with parity of doses it has a greater, though less enduring, antithermic action. The dose ought to be a quarter less than that of kairin and antipyrin, and hence it can be given more often. It is useful in fevers of short duration; in long lasting fevers quinine is useful, alone or with other antithermics. He concludes that—1, it is not necessary to combat the fever if below 39°·5 (103° F.), and without complications; 2, if above 39°·5, antipyretic treatment is indicated; 3, with cardiac or pulmonary complications, if the temperature exceeds 39°; 4, with parity of conditions, the fever must be combated in the weak and in long lasting disease; 5, among chemical antithermics, quinine is the best, because of its specific action on many infective principles; 6, in the same circumstances is indicated the use of antithermic substances; 7, to unite appropriate antithermic remedies is the best means of combating long-continued fevers. G. D'Arcy Adams, M.D.

Article 5345.

MILLER ON GAS-FORMING FUNGI IN THE DIGESTIVE CANAL.

In an article on some gas-forming division-fungi of the digestive tract, their fate in the stomach, and their effect on various foods, Professor Miller (*Deutsche Med. Wochensch.*, Feb. 25, 1886) has given an account of extended experiments on bacteria occurring in the alimentary tract. His first results were published last year in the same journal (No. 49). In this first paper he describes five forms of organisms, all of which formed gas from carbohydrates, and agreed also in the property of withstanding the action of acids, *e.g.* that of the stomach.

In the present communication two questions are discussed, having a practical bearing on the treatment of stomach-complaint. Firstly, are all the fungi which are taken with food killed or not in the stomach before the next meal? secondly, in what proportion is gas formed from different foods? The first question was investigated by experiments on dogs, as follows. Four dogs were twice daily for two days fed on a mixture of meat, bread, sugar, and milk, to which were added each time about 40 cubic centimètres of a mixed culture of four of the kinds of bacteria previously mentioned. In twenty-four to thirty-six hours, all the dogs had diarrhœa. The first was killed two and a half, the second six, the third eight, and the fourth nine hours after the last feeding. In the last only was digestion completed. Colonies of the bacteria were found in all parts of the alimentary tract, mostly in the stomach and rectum, to a less extent in the small intestine. Two dogs were treated in the same way, but bread and sugar were omitted from the diet; the result was the same. These experiments show that the bacteria can live for six to eight hours in the stomach of healthy dogs, and probably for a longer time in that of man, since the acidity of the stomach-contents of the dog is 0·3 per cent. of hydrochloric acid, while that of man is 0·2 per cent. As a practical result, Dr. Miller points out that in many stomach-conditions, antiseptic drugs would be best given before and not after the meal. Dr. Miller tried an experiment on himself. After an evening meal, consisting chiefly of potatoes and bread, he took some of the cultivation of Bacterium aërogenes I., in a little milk; in one hour there was slight swelling of the stomach; the next morning a moderate attack of intestinal colic supervened, and in twenty hours diarrhœa, which was stopped by a large dose (3 grammes) of strong hydrochloric acid. The bacteria were found in the fæces for six days afterwards.

The second question, viz., the proportion in which gas is formed by the organisms from different foods, Dr. Miller investigated by digesting two grammes of each food with three grammes of saliva, adding a similar quantity of a growth of the bacteria in gelatine-peptone; the amount of gas formed was determined by examining the level of the fluid before and after digestion. It was found that, of ordinary food, bread and potatoes produced the most gas, and nuts of all the foods experimented with. A figure is given showing graphically the amount of gas produced by different foods.

As a practical conclusion, Dr. Miller advises the following diet for patients suffering from swelling of the stomach: fish, meat, eggs, spinach, cheese, and perhaps small quantities of cooked endive and sour cranberries. One case is quoted, which did well on this diet.

The following are the organisms, the action of which is described above: Bacterium aërogenes I., Bacterium aërogenes II., Micrococcus aërogenes, Helicobacterium aërogenes, Bacillus aërogenes. For the individual characteristics of these forms, the original paper must be consulted.

Sidney Martin, M.D.

Article 5346.

SUTTON ON THE INFLUENCE OF LEUCOCYTES ON THE INFLAMMATORY PROCESS.

In the second of the Erasmus Wilson Lectures, 'On Evolution in Pathology,'* Mr. J. Bland Sutton has demonstrated the important share which is taken by certain cells in the physiological processes of tissue-repair, tissue-waste, and the absorption and digestion of foreign bodies, as well as in the pathological process of inflammation, especially in respect to the destruction of noxious micro-organisms. The lecturer noted that, so far as inflammation is concerned, three properties of cells must be taken into account. Certain cells can change their form, or move spontaneously; they can absorb certain substances with which they come into contact; and lastly, they can decompose and digest organic substances in their interior or in contact with their protoplasm.

The first property has long been recognised. Wharton Jones observed it in the leucocytes of human blood in 1846. Absorption by cells was demonstrated by Haeckel in 1862, when he injected a shell-less mollusc, *Tethys*, with indigo, and found that the granules were taken up by the blood-corpuscles. It was afterwards proved that the cells of the blood in man possessed similar properties.

Digestion of foreign bodies has been seen in *Amœba*. When that rhizopod takes into its interior a green-coloured vegetable organism, the ingested material gradually breaks up, loses its colour, and disappears. Metschnikoff and others have minutely studied the process of digestion by the cells of the endoderm, the lining of the body-cavity in the Cœlenterata. A *Mesostomum* refused to take carmine powder, but when a *Nais* was fed with the same pigment, and then given as prey to the *Mesostomum*, carmine-granules were afterwards found in the digestive cells of the latter animal. Jeffrey Parker has detected the partially disintegrated tissues of entomostraca in the endodermic cells of *Hydra fusca*; and Professor Ray Lankester has observed intracellular digestion in the very transparent fresh-water jelly-fish discovered in the lily tank at the Botanical Gardens in 1880. Metschnikoff has proved a power of election in intracellular digestion. The digestive cells of the mollusk *Phyllirhöe* could not be made to disintegrate nor even to kill the ovarian cells or ripe ova of *Echinus*, but they rapidly acted upon the sperm-cells of the same echinoderm.

A further step was taken, when it was found that certain cells in the invertebrata devoured bacteria, and broke down larval appendages and fœtal relics. Fluid containing bacteria has been injected under the skin of *Bipinnaria*; the micro-organisms were soon afterwards found, more or less altered, in the interior of amœboid cells. In the ascidian *Botryllus*, Metschnikoff has found a spirochæte and a bacillus, which were pursued by the mesodermic cells of the ascidian and digested. It is significant that some of the mesodermic cells perished in the attempt, and bacterial filaments were seen projecting from them. A similar condition has been observed in anthrax amongst vertebrates. Around foreign bodies, amœboid cells tend to fuse, and form what have been termed plasmodia. Giant-cells in the higher forms of animal life probably arise in this manner. Metschnikoff has shown that in the early stages of the absorption of the tails of tadpoles a large number of amœboid cells are present, within which are seen the remnants of nerve and muscular tissue. These amœboid cells which digest the tissues of larval structures are true leucocytes. In this capacity they have been termed phagocytes.

Metschnikoff has noted in the common entomostracan, *Daphnia pulex*, a kind of combat between the white blood-corpuscles and bacteria. When one corpuscle was not sufficient to absorb a bacterium, two or more would fuse together, and then surround and digest the micro-organism. When a thread is drawn across the interior of a vein in any mammal, leucocytes soon swarm upon it, as though endeavouring to attack and absorb the foreign body. Leucocytes and giant-cells crowd the affected area where bacilli congregate, in the lesions of tubercle and leprosy. These giant-cells thus appear identical with the fused corpuscles in *Daphnia*, and they act on the bacteria as the phagocytes act on the tissues of the tadpole's tail. Osteoclasts are evidently a mere local histological form of phagocyte.

Thus leucocytes not only help to nourish the tissues, but they also actively aid in their disintegration. Not only do they absorb and digest the fibres of larval and most probably of adult tissues, when effete, but they likewise attack morbid substances. Inflammation, Mr. Sutton observes, is the method by which an organism attempts to render inert noxious elements introduced from without or arising within it. As above explained, this task is undertaken by the leucocytes, which may absorb the morbid germs or, under unfavourable circumstances, may be destroyed by them.

Alban Doran.

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* *British Medical Journal*, Feb. 20, 1886.

ARTICLE 5347.

FOÀ AND RATTONE ON THE PNEUMOCOCCUS.*

IN a communication to the Royal Academy of Sciences of Turin, Professors Foà and Rattone deal with some of the debated points concerning the biology of the pneumococcus and its action on the animal tissues.

The point most disputed in regard to this parasite is the existence or otherwise of a colourable capsule. This, described and held by Friedländer as a diagnostic sign of pneumococcus, was denied by others (Salamon), and by some considered an accessory of no importance, frequently wanting, or even existing around other micrococci (Zahl, Fränkel). The authors declare that in gelatine-cultures the capsule is never found; but, on making subcutaneous inoculations in several guinea-pigs with a pure culture, they saw appear in the liquid drawn from the inflammatory œdema, about two days after the inoculation, an infinite quantity of pneumococci, surrounded by a capsule evident enough. This capsule has a diameter three or four times greater than that of the pneumococcus, and is very easily and deeply colourable. The authors have observed that in preparations dried by evaporation the capsules take the colouration, whilst the pneumococcus remains uncoloured; they attribute, therefore, to the method of preparation the appearance of empty capsules sometimes observed by Friedländer.

According to the authors, the capsule is formed around the micrococcus when this reaches the maximum of its development—that is, in the height of the inflammation; and is better seen when the spontaneous death of the animal is not expected. The disappearance of the capsule, in animals inoculated and allowed to die spontaneously, shows that the micrococcus grows old; that this is a stage in its involution, and not, as has been asserted, a cadaveric effect. In fact, the authors declare that they have found typical capsules around the pneumococci after the exposure of the abdominal viscera to the air for two days, in a guinea-pig killed in the full development of a peritonitis from inoculation with pneumococci.

The intra-abdominal inoculations performed by the authors in animals have given the following results. 1. The pneumococcus is capable of producing local fibrinous or sero-fibrinous inflammations. 2. When introduced into a serous cavity, it is propagated to a distance by means of the lymphatic current. 3. When an exudation rich in pneumococci is placed in the thickness of the Schneiderian membrane by means of a sterilised platinum needle, meningitis is produced. 4. Pregnant guinea-pigs, when inoculated, abort in from thirty-six to forty-eight hours. The pneumococcus does not pass into the fœtus, but is found abundantly in the uterine sinuses, where, perhaps, it helps to cause the detachment of the placenta. 5. Direct inoculation of the pneumococcus in the liver or in the spleen does not lead to definite results, owing to the simultaneous development of peritonitis. 6. Inoculation of the kidney causes nephritis, with patches formed of aggregations of innumerable micrococci and few anatomical elements. 7. Experiments on rabbits were negative.

WILLIAM R. HUGGARD, M.D.

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* *Comm. alla R. Accad. delle Sci. de Torino; Giorn. internaz. delle Sci. mediche*, Fasc. iv., 1885.

ARTICLE 5348.

MOSLER ON THE SUBCUTANEOUS INJECTION OF SALICYLATE OF CUCAINE IN ASTHMA.

THE following cases, in which asthma was treated by the injection of salicylate of cucaine, are given by Professor Mosler, of Greifswald, in the *Deutsche Med. Wochensch.*, No. 11, 1886.

A young woman, 23 years of age, whose father, brother, and sister had suffered from phthisis or asthma, had the first attack of the latter in her twelfth year, after a chill taken in consequence of a cold bath. The attacks grew worse as time went on, beginning usually between six and eight o'clock in the evening. Premonitory symptoms were anomalous sensations in the extremities, particularly numbness and cold. Then followed general discomfort, and severe pressure in the epigastrium. A hard dry cough developed gradually, which, however, became easier when a great quantity of mucous sputum was got rid of. In about twelve to twenty-four hours after this the attack ceased. When she came to Professor Mosler, though she appeared weak, there was nothing anomalous in the lungs or heart. Pressure below the ensiform process caused pain. During her first attack after admission, four centigrammes of a 5 per cent. solution of salicylate of cucaine were injected, but without giving any relief. The next morning another attack occurred, and four hours after its commencement an injection similar to the previous one was made, with the result that the attack entirely ceased in the course of a quarter of an hour. But in five hours she had another attack, which did not yield to a fresh injection. A fourth attack occurring in the following night was at once stopped by an injection, the patient passing the rest of the night quietly. No other attack occurred until 5 P.M. next day, and this was less severe. Injection of half the above quantity gave nearly immediate relief. On the following day the last injection was made, on the patient complaining of a disagreeable spasmodic cough that had lasted a couple of hours, though otherwise she felt quite well. Five minutes after the injection, the cough ceased. No other attack occurred, and the patient was discharged a week after admission. In a fortnight after this, she wrote to say she was perfectly well.

The other case was that of a labourer, aged 23, who complained of shortness of breath and violent distressing fits of coughing, generally lasting two or three days. The patient was a muscular man. The heart and lungs were sound. During an attack there was rhonchus in both lungs. There was no expectoration. Almond water with morphine was given, and inhalation of gum-benzoin prescribed, but without effect. During the next attack a subcutaneous injection of salicylate of cucaine (4 centigrammes) was made. The difficulty of breathing ceased at once. But the patient complained of dizziness and blackness before his eyes for two or three hours after. For five days he was quite well. On the sixth day a fresh attack yielded to injection, leaving him, however, dizzy, and complaining of cold and general anxiety for forty-five minutes. In six days, the last attack was stopped by the same method, the after-effects not occurring.

Professor Mosler hopes that this method will receive a fair trial. Without asserting it to be a radical measure for this trying complaint, he believes that in individual cases it puts a stop to asthmatic attacks speedily, and renders their recurrence less frequent. His attention had been directed to the subject by an article by Dr. Beschorner, of Dresden, in the *Monatsschrift für Ohrenheilkunde, so wie für Nasen-, Rachen-, Kehlkopf- und Luftröhrenkrankheiten*, No. 10, 1885. John Elliott.

ARTICLE 5349.

LEUDET ON THE PROPAGATION OF PHTHISIS IN GENERAL HOSPITALS.

At a recent meeting of the Academy of Sciences, a paper by M. Leudet, of Rouen, was read, on the propagation of pulmonary tuberculosis in hospitals by the admission of phthisical patients. In the Hôtel-Dieu, at Rouen, Dr. Leudet treated in his wards 16,094 adult patients of both sexes, between the years 1854 and 1885. Among them, 13,466 were admitted once, and 2,628 admitted from two to twenty-nine times in the thirty-one years. Dr. Leudet sought to ascertain the ulterior development of pulmonary tuberculosis among the 2,628 who had often remained in contact with an atmosphere contaminated by tuberculous patients. The proportion of phthisical patients admitted into M. Leudet's wards was 17 per cent. On deducting from the 2,628 the number of patients admitted several times for tuberculosis, there remained 1,208 admitted for other diseases. Of these, 27·7, or 22·9 per cent., became tuberculous. The proportion of patients becoming tuberculous after repeated admissions was 8·9 per cent. greater than the proportion of tuberculous patients on entry to the entire amount of the patients admitted. M. Leudet states that he has observed these patients in their ordinary life, where they were exposed to unhealthy conditions; and he concludes that the propagation of pulmonary tuberculosis by hospital contagion is not demonstrated.

Dr. Leudet next considers the peculiar conditions favourable to contagion. These he divides into three classes. The first includes diseases which confer a special tendency for contracting pulmonary tuberculosis—pleurisy, glycosuria, and continued fever. The second class predisposes the economy to contract tuberculosis, but in a less degree than the diseases of the first class—syphilis, typhoid fever, erysipelas, diseases of the spinal cord, and small-pox. The third class is still less favourable to tuberculosis: it consists of alcoholism, malarial disease, pneumonia, uterine affections, rheumatism, and hysteria. A fourth class is almost inert: it comprises affections of the alimentary canal, renal disease, bronchitis, pulmonary emphysema, cardiac affections, and cerebral diseases. M. Leudet believes that, in adults, bronchial inflammation and intestinal disorders are not specially favourable to the development of tuberculosis. W. Vignal.

Medical Exhibition in Berlin.—An exhibition is to be held in September in Berlin, at which it is intended to present a picture of the progress made in recent years in all departments of medical research. The sections will include physiology, pathology, anatomy and general pathology, pharmacology, dermatology, and syphilology, surgery, gynæcology, ophthalmology, psychiatry, neurology, laryngology, together with military and sanitary affairs. The secretary of the exhibition is Dr. Lassar, 19 Karlstrasse, Berlin.

ARTICLE 5350.

KARST, ANSEROFF, AND OTHERS, ON THE ACTION OF ANTIPYRIN AND THALLIN.*

In the *Meditz. Pribavl. k' Morskomŭ Sbornikŭ*, January 1886, p. 42, Dr. Sergei M. Karst, of St. Petersburg, writes that he has tried antipyrin in three cases of enteric fever, three of croupous pneumonia, two of pulmonary phthisis, one of relapsing fever, one of acute exudative pleurisy, and one of acute articular rheumatism. The alkaloid was used in one-gramme doses, three or four times a day, at intervals of an hour. [The preparation was obtained from Schmidt and Stoll; it was an amorphous white-yellowish odourless powder of bitter almond taste, easily soluble in water, alcohol, and hot glycerine, and insoluble in ether.] The conclusions the author drew from his observations are unfavourable to the drug. Of three typhoid patients, two died from complications, while in a third the course of the disease was apparently lengthened by antipyrin. [Similar observations were reported by Dr. N. P. Vasilieff in regard to typhus fever. Dr. Enko saw retardation of resolution in cases of croupous and catarrhal pneumonia treated by antipyrin. *See* the *Vratch*, No. 18, 1885, p. 293.—*Rep.*] The evening temperature fell considerably and remained so for several hours, the depression being still slightly marked on the next morning; nevertheless, there was not a slightest improvement in the patient's state; on the contrary, all troublesome symptoms grew invariably worse, and, in addition, exhausting profuse sweats, weakening of the pulse, prostration, and vomiting occurred. Similarly, no shortening of the process was seen in cases of pneumonia, one of which ended fatally, and in another antipyrin caused frequent sickness and profuse perspiration. Exactly the same may be said in regard to the cases of rheumatism and other diseases. In the phthisical patients, the drug brought some improvement in subjective feelings, but this gain was more than balanced by very exhausting sweats. [The sudorific action of antipyrin, generally, is so intense as to elicit a suggestion from Prof. V. A. Manasseĭn to give a trial to the drug in cases where the use of pilocarpine is indicated; *see* the *Vratch*, No. 33, 1884, p. 565.—*Rep.*] Like Jakubovitch, Dr. Karst seems to suspect that antipyrin inhibits the elimination of oxydation-products from the organism. Hence he advises to be cautious in using the drug and to keep better to the old plan of treating fevers by cold baths and sponging. A series of experiments, carried out by the author with meat-infusions and urine, showed that antipyrin prevented putrefaction-processes only when those fluids were mixed with an equal volume of an 8 per cent. of the drug; to arrest an incipient putrefaction it proved necessary to use a 10 per cent. solution in the case of urine, and a 15 per cent. one in that of a meat-infusion.

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* Karst, Sergei M.—On an Unfavourable Influence of Antipyrin in Enteric Fever, Croupous Pneumonia, and Some Other Diseases (*Meditz. Pribavl. k' Morskomŭ Sbornikŭ*, January 1886. pp. 42-54). Anseroff, Alexandr A.—On the Physiological Action of Antipyrin and Thallin (*Meditz. Obozr.*, Fasc. i., 1886, pp. 63-69). Karst, Sergei M.—On the Action of Thallin on the Temperature, Pulse, Respiration, and Amount of Urine and Urea in Febrile and Non-febrile Patients (*Vratch*, No. 2, 1886, pp. 32-33). Britneff.—A Contribution to the Question of the Antipyretic Action of Sulphate of Thallin (*Russkaia Meditsina*, No. 1, 1886, pp. 6-8). Khomĭakoff, M. A., and Ivan M. Lvoff, Professors.—Antipyrin in Articular Rheumatism and Megrim (*Vratch*, No. 51, 1885, pp. 867-68).

In the *Meditz. Obozr.*, Fasc. i., 1886, p. 63, Dr. Alexandr A. Anseroff, of Professor A. A. Ostroümoff's clinic in Moscow, writes that he has carried out some experimental researches concerning the action of antipyrin and thallin on the vaso-motor regulatory apparatus in the healthy and febrile organism.

His *physiological experiments* consisted in injecting the drugs under the skin in dogs, and in subsequently measuring the temperature both in the rectum and externally (between the digits). It was found that, while the internal (rectal) temperature moderately sank, the interdigital enormously rose; the rise amounting to 12° or 13° C. in the case of antipyrin, and over 15° C. in that of thallin. Thus, on injecting two half-gramme doses of antipyrin, with the interval of an hour, into a healthy dog, the rectal temperature fell in two hours from 39°·3 to 38°·4 C., while the external rose from 26°·2 to 38°·8 C. Again, on injecting three half-a-gramme doses of antipyrin into a febrile animal, within four hours the internal temperature fell from 40°·2 to 38°·6 C., while the external ascended from 25°·0 to 38°·0 C. An injection of twenty-five centigrammes of thallin into a healthy animal within three and a half hours lowered the rectal temperature from 39°·4 to 38°·6 C., and elevated the external from 21°·5 to 37°·3 C.

From these experiments, the author draws the conclusion that 'antipyrin and thallin act on the vaso-motor apparatus in such a way as to induce an enormous dilatation of the peripheral blood-vessels, in consequence of which the blood-mass flows from the centre to the surface of the body, and, while circulating along the dilated vessels, cools itself—thus lowering the internal temperature.' According to some experiments by Dr. Anseroff, the vascular dilatation is dependent upon antipyrin stimulating the vaso-dilators; but not upon a paralysis of the vaso-constrictors.

Clinical observations by the author gave on the whole the same result; that is, on the internal administration of antipyrin and thallin to patients suffering from enteric and typhus fevers, there were observed a decrease of the internal (axillary) temperature, and a parallel increase of the external (palmar). However, while admitting a close analogy between antipyrin and thallin in regard to their physiological action, Dr. Anseroff asserts that clinically antipyrin deserves to be placed at a far higher level comparatively than thallin. The antipyretic action of the latter is very short, depression of the temperature lasting usually only two, very seldom three or five hours; besides, its use is very often accompanied by rigors. Meanwhile, antipyrin depresses the temperature from six to twelve and even eighteen hours; its action being but rarely associated with rigors. The author, who during his clinical experiments spent six or eight successive hours at the bedside of the patients, states that he invariably witnessed 'a marked transfiguration (*prěobrajenië*)' of the latter under the administration of antipyrin, so considerably were the pulse, respiration, and general state improved. Finally, he advises to give but moderate (one-gramme) doses of antipyrin, since, according to his physiological and clinical experiments, large doses of the drug, as well as of thallin, are apt to induce an elevation, instead of a depression, of the febrile temperature.

In a preliminary note in the *Vratch*, No. 2, 1886, p. 32, Dr. Sergei M. Karst publishes the results of his experiments on fourteen patients, two of whom were non-febrile, and twelve suffered from various febrile diseases (six from croupous pneumonia, four from enteric fever, one from acute pulmonary tuberculosis, one from acute articular rheumatism). Sulphate of thallin was used, and was given in doses of from 1½ to 15 grains, the daily amount varying from four to thirty grains. Most frequently, the temperature fell 2° to 3° C. Ten-grain doses, however, often produced a depression amounting to 3° or 4° C. The lowest figures were usually read during the first hour after administration. The longest duration of depression was six hours, the most frequent (68 times in 125) being two or three hours. The depression lasted the longer, the larger was the dose given. Profuse perspiration was observed 58, and a slight one 40 times, out of 203. Intense rigors were noted 11 times (they usually accompanied a rapid fall, amounting to 2° C.); slight rigors, 14; nausea, 2; vomiting, 12. In four of twelve patients a retardation of the pulse (from 4 to 15 beats a minute) and of respiration (from 2 to 12 breathings a minute) occurred in about half an hour after the dose. When large (twenty-grain) daily doses were given, the urine used to assume an alkaline reaction. It was found generally that the urine of patients treated by thallin rapidly underwent putrefaction. The daily amounts of urine and urea (both in febrile and in non-febrile patients) were considerably lessened during the thallin days, and showed a marked increase (comparatively with the figures obtained before the administration of the salt) when the drug was discontinued. That is, Dr. Karst's observations in regard to thallin closely tally with those of himself and Jakubovitch concerning antipyrin (*see* the LONDON MEDICAL RECORD, 1886); and lead him to the conclusion that thallin, like antipyrin, inhibits the elimination of oxydation-products from the organism during the days of administration of the drugs.

In the *Russkaia Meditzina*, No. 1, 1886, p. 6, Dr. Britneff, house physician to the Military Hospital in Tzarskoë Sëlo, writes that he has administered sulphate of thallin to fifteen febrile patients (three with croupous pneumonia, three with catarrhal pneumonia, three with chronic pneumonia, one with tuberculosis, one with phlegmonous tonsillitis, one with 'febris typhoidea,' one with enteric fever). As a rule, four-grain, and sometimes eight-grain doses were given, the maximal daily amount being twenty grains. The results are given thus. 1. Thallin is an energetic antipyretic means (the maximal fall being 2°·6 C., and in one case even 3°·5 C.). 2. It lowers the temperature very rapidly (usually in an hour, sometimes in three-quarters). 3. Its action is of a short duration (a re-elevation usually ensuing within two hours, and not later than four). 4. The reduction of temperature is almost always accompanied by profuse perspiration. 5. The re-elevation of temperature is very frequently (in ten of fifteen) associated with rigors. 6. The pulse and respiration become somewhat retarded. 7. The urine assumes an appearance reminding of that from carbolic acid. It becomes dark brown. The daily amount decreases, while its specific gravity increases (up to 1033). 8. Neither the general state of the patients nor the morbid processes undergo any change from the use of thallin. Of accessory symptoms, collapse in two cases occurred, and compelled abstinence from any further administration of the drug.

In the *Vratch*, No. 51, 1885, p. 867, Professors M. A. Khomīakoff and Ivan M. Lvoff, of Kazan, state that they tried antipyrin in eight fairly severe cases of acute articular rheumatism in persons aged from 25 to 40, the drug being given in doses of from 15 to 20 grains, four times a day. Like Demme, Lenhartz, Guttmann, and Neumann, the authors obtained very satisfactory results. The pain was quickly relieved, the patients being able to get up on the second or third day of the treatment; simultaneously the swelling was reduced, and the temperature rapidly fell to the normal level, the fall being accompanied by sweating. No awkward accessory effect, except slight drowsiness, was ever observed. In two of the cases, salicylic acid and salicylate of soda had been previously administered, and failed to afford any relief. Further, the authors gave antipyrin in several cases of acute and chronic muscular rheumatism, rheumatic pains of the head, legs, and sacrum, and in various cases of neuralgia of rheumatic origin. The results were equally good. Finally, Drs. Khomīakoff and Lvoff administered antipyrin in over twenty-five cases of true megrim (hemicrania) and headache (caused by mental strain, acute and chronic anæmia, &c.); the drug being given in 15 or 20 grain doses in a small wineglassful (*rīumka*) of water. In all the cases 'a strikingly good result was obtained; in about twenty minutes after a dose, or even still sooner in milder cases, the headache began to pass away, and in half an hour the patients were enabled to freely and comfortably resume their usual occupations.' A second dose (taken half an hour after the first) was found necessary but very seldom; and there was not a single occasion for administering a third one.

V. Idelson, M.D.

Article 5351.

WHEELHOUSE ON THE SURGERY OF THE MALE PERINÆUM.

In the *Brit. Med. Jour.*, January 1886, p. 186, Mr. C. G. Wheelhouse publishes a clinical lecture on the surgery of the male perinæum and external organs of generation.

The author first considers the simple operation of amputation of an epitheliomatous penis. If the disease be confined to the glans, the ordinary operation of cutting through the corpus spongiosum and urethra at one level, and through the corpora cavernosa at another, and of providing the raw end of the stump with a covering of skin, is generally sufficient. If a recurrence should take place in the testicle, or in the glands of the groin, the author advises a clean sweep to be made of all the parts. The following case is noted to show the method adopted in these cases. A labourer, aged 50, presented himself in March 1879, with disease of the penis. This organ was amputated in the ordinary way, leaving a short stump, and for a time the patient was comfortable. Some months later, the patient returned with the stump indurated and painful; the urethra was so far closed, that micturition could only be performed by drops; the glands in the groins were swollen and tender, but not ulcerated; both testicles were swollen, and had fungating sores upon them. The author decided to perform an operation, aiming at the total removal of the penis. A vertical incision was made through the skin of the mons veneris, and, sweeping round each side of the root of the penis, the incision was carried into the raphé of the scrotum. The skin then being held well away on each side, the body of the penis was drawn fully out of the wound, so as to expose the organ to its very root. A twitch was then placed upon it as far back as possible. This being tightened like a tourniquet, the organ was severed from its connections immediately in front of the triangular ligament. All bleeding vessels were then secured, and the first stage of the operation was completed. At the second stage the patient was placed in lithotomy position, the perinæum was laid open in the centre, and the urethra was carefully dissected from its connections for about an inch (a sound being previously introduced), and was then carried down into the perinæum, where it was brought out at the wound and laid open on its under surface for half an inch or so; the margins were then carefully stitched to the edges of the perinæal wound at a little distance in front of the anus. When the wound healed, no trace of penis remained. The patient was always obliged to micturate in the sitting position, having perfect control over the bladder. The next step consisted in clearing out the glands in the groin and removing the testicles. This being done, the patient made an excellent recovery, and was very grateful for the relief obtained. If the penis be thus amputated, it is cruel to leave the testicles, for the patient is subjected to desires which can never be gratified. So long as any portion of the penis remains, then it is right to leave the testicles, but not when this organ is entirely removed.

Speaking of lithotomy, the author states the introduction of 'lithotomy at a single sitting,' as introduced by Bigelow, has sounded the death-knell of lithotomy, except in cases of young children.

The lecture concludes by a short account of the great benefit derived from dilatation of the sphincter ani in all cases of disorders of the rectum.

Richard Neale, M.D.

Article 5352.

DEUTSCHMANN,* DE WECKER,† AND NETTLESHIP,‡ ON MENINGITIS FOLLOWING ENUCLEATION.

These three papers constitute a valuable contribution to the subject of meningitis following enucleation of the eye.

Deutschmann's paper contains twenty-six cases, De Wecker's one case, and Nettleship's four cases, in which cerebral symptoms followed enucleation. In the discussion on the last paper, another case was read by Mr. Lawford (for Mr. Tay), and two others were mentioned by Mr. MacHardy. These papers may therefore be considered to comprise thirty-four cases, in which cerebral symptoms ensued after enucleation of the globe.

If, however, we confine our attention to meningitis following a simple enucleation, the following cases must be excluded: from Deutschmann's list No. 5, since the operation, was complicated by the removal of a malignant tumour from the orbit; De Wecker's case, as it is doubtful whether the symptoms were due to meningitis; one of MacHardy's, as the eye was forcibly torn out by the patient, and not enucleated in the ordinary manner. We are thus left with thirty-one cases, in which symptoms of meningitis followed simple enucleation of the globe.

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* *Archiv für Ophth.*, Band xxxi., Heft 4. † *Annales d'Oculist.*, January-February 1886. ‡ *Ophthal. Rev.*, February 1886.

Of these cases, twenty-seven were fatal, and a more or less complete *post mortem* examination was made in twenty. In the four cases of recovery, the symptoms are said to have been sufficiently pronounced to place the diagnosis beyond reasonable doubt. With the exception of two cases of intra-ocular tumour, there had been a perforating wound, and therefore the possibility of septic inflammation, in all the eyes enucleated. De Wecker lays some emphasis upon this; but it must be remembered that, except in cases of tumour, eyes are hardly ever excised without having been previously wounded by accident or operation.

In nearly all the cases, the first symptoms occurred within forty-eight hours of the operation. The duration of the symptoms presented more variation.

The question as to whether the presence of suppuration within the enucleated eye increases the liability to meningitis, is discussed in all the papers. Since the two cases recorded by A. Von Graefe (*Ophthal. Gesell. Heidelberg*, 1863), in which enucleation during acute panophthalmitis was followed by fatal meningitis, it has been a very prevalent idea that there is especial danger in enucleating an eye in this condition. As we do not know to what extent this view has influenced practice, we cannot gauge the significance of the fact, pointed out by Nettleship, that suppuration was, or had been, present in only about half of the enucleations which were followed by meningitis.

Deutschmann considers that there can be no doubt that the presence of suppurative panophthalmitis increases the liability to meningitis; and he believes that this is due, firstly, to the fact that the accompanying œdema forms a more suitable nidus than normal tissues for the development of micro-organisms; and, secondly, to the frequency with which such eyes are ruptured during the operation. Both Deutschmann and De Wecker attach much importance to the rupture of the globe, and to the inoculation of the orbital tissues with its contents. As a matter of fact, this rupture is stated to have occurred in a considerable number of the cases, and may have done so in others.

The condition of the wound appears to afford no indication of danger; in nearly all it is stated to have been doing well, and in some to have healed, when the symptoms of meningitis appeared. Among the earlier and most constant of the latter, were pain in the head and a rise of temperature.

The authors agree in thinking that the probable cause of the meningitis is a septic inflammation propagated from the wound, and that the latter may become infected either at the time of the operation, or at any subsequent period before it has healed. There is less uniformity in opinion, and probably also in the facts, as to the path by which the brain is reached. In this respect the evidence afforded by the necropsies is very scanty. Thus, in no fewer than nine, no connection whatever could be traced between the meningitis and the orbit; in some of these, the examination included a careful microscopic examination of the optic nerve. There was orbital cellulitis in one case. The optic nerve and its sheaths was indicated as the conducting path in two cases certainly, and in two others probably. In one case, suppuration had extended up the sheath of the sixth nerve to the cavernous sinus. In the remaining five the existence of meningitis was confirmed, but no details were given.

There was no uniformity as to the part of the meninges affected; thus in five the meningitis was chiefly basal, in four it chiefly affected the convexity, in three it was general, and in the remainder the notes are deficient on this point.

Deutschmann enumerates the following as modes in which the meningitis may be set up.

1. There may be direct implication of the periosteum and bone. This is not uncommon after injuries, but can hardly occur in simple enucleation.

2. There may be implication of the cellular tissue which occupies the sphenoidal fossa; this has not been proved to have occurred, but its possibility cannot be denied.

3. There may be transmission of inflammation along the sheaths of the orbital nerves, especially the sixth, owing to its relation to the cavernous sinus. This occurred in a case of Leber's. A suppurating eye was excised from a child a year old, and the globe ruptured during the operation. Symptoms of meningitis supervened twenty-four hours later, and were succeeded by coma and death on the seventh day. Suppuration was found extending along the sixth nerve to the sinus, but there was none in the orbital cellular tissue. There were thrombi in the cavernous and longitudinal sinuses, and the pus from the sixth nerve contained micro-organisms.

4. Transmission may occur through the orbital veins and cavernous sinus. There is no direct evidence of phlebitis of the orbital veins, but it is pointed out that infective germs might travel along the interior without producing any microscopic change.

5. Although from their anatomical connections the optic nerve and its sheath would *a priori* seem the most ready channel of infection, they have only been demonstrated to be such in a very few cases. It is pointed out, however, that this may be due in many instances to the fact that the nerve has been assumed to be normal, because it appeared so to the naked eye. In many of the cases the nerve was atrophied, and but loosely invested by its sheath, conditions which would probably facilitate the passage of microbes. In Warlomont's case (*Oph. Gesell. Heidelberg*, 1863), in which a needling of opaque capsule in a healthy child was followed by purulent iritis and fatal meningitis, the inflammation must have travelled either by the veins or optic nerve, yet both appeared normal. In Benson's case, it is only stated of the naked-eye appearances of the optic nerve that 'it appeared atrophic,' but on microscopic examination inflammatory cell-proliferation was found extending to the chiasma, and a certain unknown distance down the other optic nerve.

The following are the conclusions arrived at by the several authors.

Deutschmann.—1. The acute meningitis which occasionally follows enucleation is due to infection of the wound, either by the contents of the globe or by atmospheric germs. 2. The inflammation is conveyed to the meninges along pre-existing channels, but that different channels may be affected in different cases. 3. The risk of meningitis occurring is greater when panophthalmitis is present.

De Wecker.—1. In operations on the orbit, stringent antiseptic precautions are necessary. 2. These are the more essential in proportion as more of the communicating channels are involved. 3. The operation should be preferred which implicates fewest of the communicating channels—namely, exenteration.

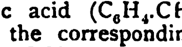
Nettleship.—1. It is doubtful whether the presence of suppuration increases the danger of enucleation. 2. The liability to meningitis would be diminished by free drainage from the orbit after enucleation. 3. Enucleation is at present preferable to exenteration, it not having been established that the latter may not cause sympathetic inflammation.

W. Adams Frost.

*PHARMACOLOGY.**

Article 5353.

Some time since, a certain amount of interest was temporarily excited by an announcement that a coaltar derivative had been obtained, which far exceeded cane-sugar in sweetness. The interest has been recently revived by the news that the discovery has received practical application, and that the compound is being manufactured in Leipzig under the name of 'saccharine.' Amongst other purposes, it has been recommended as a sweetening material for the food of diabetic patients, and with this object pills containing each 5 centigrammes are prepared, of which one or two suffice to sweeten a cup of coffee; it is said also to form a chemical compound with quinine (*Pharm. Cent.*, vol. xxvi., p. 604). Saccharine is the discovery of Dr. Fahlberg, of New York, and some information in respect to its chemical constitution was communicated recently by Mr. Levenstein to the Manchester Section of the Society of Chemical Industry (*Pharm. Journal*, Feb. 27, p. 75). It appears from this that saccharine is benzoyl-sulphonic-imide, and may be represented by the formula—



$$C_6H_4 < \begin{matrix} CO \\ SO \end{matrix} > NH.$$

It is prepared by converting toluene $C_6H_5(CH_3)$ into its monosulphonic acid $(C_6H_4.CH_3.SO_2)$; transforming this into the corresponding orthotoluenesulphonic chloride $(C_6H_4.CH_3.SO_2Cl)$ by treatment with phosphorus pentachloride; introducing an amido group to form orthotoluene sulphamide $(C_6H_4.CH_3.SO_2NH_2)$; and this by oxidation yields benzoyl-sulphonic-imide or saccharine. It is described as occurring as a white powder, melting at 200° C. with partial decomposition, and crystallising from an aqueous solution in thick short prisms that are difficultly soluble in cold, and more readily in warm water. Alcohol, ether, glucose, and glycerine are good solvents of it; and its solubility in ether might be utilised to detect its presence when mixed with sugar. Saccharine is said to form salts having a sweet taste, and to possess moderately strong antiseptic properties. It is alleged to be about 230 times as sweet as the best cane- or beet-sugar, to impart an intensely sweet taste to solutions as dilute as 1 part in 10,000 parts of water, and, when added to glucose in the proportion of 1 in 1,000 or 2,000, to render it undistinguishable as to taste from cane-sugar. Although, therefore, the cost of saccharine is at present relatively high, this might in many cases be more than compensated by its intensity of flavour. Some physiological experiments made by Dr. Stutzer, of Bonn (*Pharm. Centralh.*, March 4, p. 107) are said to have shown that saccharine passes unaltered through the organism, and exclusively into the urine, the composition of which it does not otherwise affect. Administered to dogs in large doses for several days successively, it was not found to influence the change of tissue, and it is pronounced to be perfectly non-injurious. When introduced subcutaneously it was rapidly absorbed, and was detected in the urine half an hour afterwards. As this compound may assume considerable importance, it seems unfortunate that a name should have been chosen for it, which has hitherto been associated with quite a different body.

The hydrated sulphide of zinc, obtained as a white precipitate on adding sulphydrate of ammonium to a solution of pure sulphate of zinc, has been recommended for medicinal use by M. Vigier (*L'Union Pharm.*, March, p. 97). Although this sulphide is not attacked readily by weak organic acids, M. Vigier has observed that it is decomposed in the stomach, with evolution of sulphuretted hydrogen, and that similar decomposition goes on, but more feebly, in contact with secretion from the sweat-glands. He recommends that it should be tried in cases where sulphurous medication is desirable, administered in pills containing each a centigramme of sulphide of zinc, from five to ten of which might be taken daily, or applied externally as a pomade consisting of one part of sulphide, eight parts of lard (preferably not quite fresh), and one part of almond-oil. It is stated that from the latter preparation, in contact with sweat-secretion, there is a very slow and imperceptible disengagement of sulphuretted hydrogen, but sufficient to act as a parasiticide.

In a paper read before the Chemical and Physical Society, University College, on March 4, Messrs. Sulman and Berry describe the results of experiments made to test the antiseptic value of various boracic, salicylic, and benzoic compounds that have been put forward as food-preservatives, especially in regard to their capability of preserving milk (*Chem. News*, March 12, p. 130). Of the boracic acid class, including the compounds advertised as 'aseptin,' 'glacialine,' 'boroglyceride,' &c., it was found that the free acid itself is the most efficient preservative, and that the compounds owe their power almost entirely to their contained free acid. A specimen of 'boroglyceride' examined consisted of about 25 per cent. of the true boracic ether of glycerine, with 75 per cent. of free boracic acid and glycerine 'in equivalent proportions.' It was observed that the true compound, the ice-like solid, was immediately resolved into free acid and glycerine when water was added to it; and, as it is assumed that this is what takes place always when it comes into contact with aqueous liquid or animal tissue, the opinion is expressed that, as the glycerine has practically no antiseptic value, it follows that 'the value of boroglyceride is entirely dependent upon the 45 to 50 per cent. of free H_3BO_3 which it liberates on use.' This splitting up of the 'ice-like solid' in water into boracic acid and glycerine was pointed out in the *Pharmaceutical Journal* four years ago (vol. xiii., p. 883); and the opinion was then expressed that 'it would be interesting to ascertain by experiment the relative preservative powers of the same proportions of ether used separately, or of both as a simple mixture.' The authors are adverse, in the presence of existing physiological evidence, to the employment of boracic acid or borates as preservatives of food, and especially of milk, in consequence of the greater risk to children. The still more serious objection to salicylic acid and salicylates on this ground is put out of court with respect to the preservation of milk, since the authors found these usually potent compounds to be utterly useless for that purpose. Benzoic acid proved objectionable on account of its tendency to precipitate casein; and the best results were obtained with sodium benzoate, which, it is stated, has the advantage of being tasteless, one-third more powerful than boracic acid, and non-injurious when taken in small quantities for prolonged periods.

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* Levenstein on Saccharine for Diabetes.—Vigier on Hydrated Sulphate of Zinc. — Sulman and Berry on Boracic and other Antiseptics.—Rosen on the Alkaloids of Lobelia.—Kunz on Scopoletin.—Schiff on the Synthesis of Coniine.—Bombelon on the Alkaloid of Betel-nut.—Houdé on the Active Principle of Calumba.—Tanret on the Immediate Principles of the Bitter Orange.—Schweissinger on Tests. Condensed from the *Pharmaceutical Journal*, April 3, 1886.

The discovery of a second alkaloid in the leaves of *Lobelia inflata* has been an indirect result of an examination of the *Lobelia nicotianæfolia*, a plant growing in the mountain ranges of the Madras peninsula and Ceylon. One of the Mahratta names of the latter plant is equal to 'the tubular poison plant,' and an infusion of its leaves is said to be used by the natives as an antispasmodic. It is mentioned in the *Indian Pharmacopœia*; and Dr. Dymock, in his *Vegetable Materia Medica of India*, says that the leaves resemble tobacco, and that the dry herb, when handled, is extremely acrid, the dust irritating the throat and nostrils. As nothing was known concerning the active constituents of this drug, its examination was undertaken in the University of Dorpat by Herr v. Rosen, who reports (Thesis) that he has isolated from *L. nicotianæfolia* two alkaloids; one a liquid, and corresponding with the reported properties of lobeliine from *L. inflata*, and the other a crystalline solid, soluble in chloroform and difficultly soluble in water, the chemical properties of which are under investigation. Herr v. Rosen was therefore induced to make similar experiments on *L. inflata*, and succeeded in separating from that drug also both the liquid and the solid base. The results of some pharmacological experiments made with lobeliine hydrochlorate prepared by Herr v. Rosen from the two plants, a commercial sample of lobeliine sulphate, and the solid alkaloid from the two plants, showed that they corresponded completely in their action, which resembled apomorphine in its emetic character.

Among the compounds reported by Herr Kunz a few months since as having been isolated from belladonna, was one to which the fluorescence of alkaline solutions of the extract was attributed, which he named 'chrysatropic acid,' and considered to be identical with the fluorescent 'scopoletin' obtained by Professor Eykman from *Scopolia japonica*. Dr. H. Paschkis confirms this opinion, but recommends that, as the name 'chrysatropic acid' is particularly inappropriate, as being based on the yellow colour of the not quite pure substance, it should be abandoned in favour of 'scopoletin.' In the Japanese belladonna (*Scopolia japonica*) scopoletin occurs probably as a decomposition-product of an accompanying glucoside, scopolin, but Dr. Paschkis has failed to detect the presence of scopolin in the belladonna. Scopoletin may turn out to have some importance in forensic chemistry, since it passes quickly into the urine, and can be detected by means of its fluorescence after the removal of the normal colouring matters. In this and other respects, it appears to closely resemble æsculin.

More than fifteen years have elapsed since the synthesis of coniine by Dr. Hugo Schiff was prematurely announced (*Pharm. Journ.*, [3], Band i., p. 605), and the problem which eluded that chemist has remained unsolved. The latest published attempt is one by Professor Ladenburg (*Berichte*, Band xix.). It consisted in causing paraldehyd to react upon synthetically prepared α-picoline at a temperature of 250° C., by which means a small quantity of an oily liquid was obtained, that was difficultly soluble in water and smelt like conyrine, but which had a composition approximating to that of allylpyridine ($C_5H_4C_3H_5N$). This was submitted to an undescribed reduction-process, which yielded a base that, after being converted into hydrochlorate and treated with a double salt of cadmium and iodine, was found to form characteristic compounds with α-propylpiperidine (coniine). The product after recrystallisation was obtained in well-formed crystals, resembling those of the known coniine salt, having the same melting point and giving fairly corresponding figures on analysis. From the mother-liquors a base was regenerated that in odour, solubility in water, boiling point, and the character of its nitroso compounds, exactly resembled coniine; but the hydrochlorate had a somewhat lower melting point. Professor Ladenburg therefore considers that he has obtained synthetically a base very nearly allied to coniine, and very probably chemically identical with it; but he proposes to repeat his experiments, starting with chemically pure α-picoline and working on a larger quantity.

Herr E. Bombelon announces that he has succeeded in isolating from the betel-nut a volatile alkaloid, resembling nicotine, to which he has given the name 'arekane.' He describes it as being left on the evaporation of an ethereal solution as a colourless oil, smelling like weak meat-broth, and with a strongly alkaline reaction. It forms varnish-like salts with tartaric, citric, hydriodic, and salicylic acids, the salicylate having a tobacco-like odour. The hydrochlorate gives with platinic chloride a yellow, with gold chloride a light yellow, with mercuric chloride a white, and with tannin a whitish precipitate. The taste of the free alkaloid as well as of the salts is said to be at first imperceptible, but afterwards becomes acrid. The alkaloid increases the secretion of saliva, slackens the pulse, and has a purgative action.

Calumbin, the non-nitrogenous crystalline bitter principle occurring in calumba root together with berberine, is usually represented as not possessing much physiological activity. Dr. Lauder Brunton says (*Pharmacology*, p. 757) that it seems to have less action than berberine. But some experiments made with the separated crystalline principle and reported by M. Houdé (*Répertoire*, March, p. 113) point to it being a somewhat energetic substance, giving rise to vomiting and diarrhœa. In small doses, it appeared to augment the secretion of bile, of the glands of the stomach and the intestine; after full doses, the liver appeared to undergo granular fatty degeneration. A dose of 10 centigrams administered to fowls caused death, preceded by digestive disturbance and frequent evacuations. It is thought that, if it were not that calumbin is present in calumba in only small amount (0·35 to 0·4 per cent.), it would prove an inconvenient constituent in the administration of the drug.

Statements that have been made recently as to the antimalarial properties of certain preparations of oranges and lemons lend interest to an investigation by M. Tanret, as to some immediate principles in the rind of the bitter orange (*Comptes Rend.*, tome cii.). By various treatment of an alcoholic extract of the peel, M. Tanret has succeeded in separating—(*a*) a crystalline acid, insipid and non-volatile, insoluble in water and ether, slightly soluble in cold alcohol, but more soluble in boiling alcohol and chloroform, and having a composition represented by the formula $C_{44}H_{28}O_{14}$; (*b*) a non-crystalline resinous body, extremely bitter, nearly insoluble in cold water, but freely soluble in boiling water and in ether, alcohol and chloroform, and having a composition approximating to that of hesperetic acid; (*c*) a crystalline glucoside, isomeric with hesperidin, and named isohesperidin; (*d*) hesperidin; and (*e*) a glucoside to which the bitterness of the peel is attributed and which has been named 'aurantiamarin.' Aurantiamarin is soluble in all proportions in water and in alcohol, but is insoluble in ether and chloroform. It is the natural solvent of hesperidin and the bitter resin (*b*).

SURGERY.

RECENT PAPERS.

5354. Lindner.—Contribution to the Etiology of Mammary Tumours. (*Deutsche Med. Wochensch.*, No. xxxv., 1885; and *Centralbl. für Gynäkologie*, December 1885.)

5355. Areilza.—'Fracture of the Penis.' (*Rev. de Ciencias Medicas*, and *El Siglo Medico*, Jan. 31, 1886.)

5356. Naumann, G.—Cases of Tuberculosis of the Peritoneum treated by Laparotomy. (*Hygeia*, p. 604, 1885; and *Centralblatt für Gynäkol.*, Jan. 16, 1886.)

5357. Labbé.—On Total Extirpation of the Larynx.

5358. Picqué.—The Use of Perchloride of Mercury as an Antiseptic. (*Bull. Gén. de Thérap.*, Jan. 15.)

5359. Keyes.—The Treatment of Hydrocele. (*New York Medical Record*, No. 8, 1886.)

5360. Kosmovsky, Julian A.—On an Unfavourable Sequel to the Use of Esmarch's Bandage. (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, p. 21.)

5361. Konstantinovsky, Mikhail V.—On Gangrena Scroti. (*Proceedings of the Caucasian Medical Society*, No. 3, 1886, pp. 82–84.)

5362. Herrlich. — Subphrenic Abscess. (*Deutsche Med. Wochensch.*, No. 9, 1886.)

5363. Hoffmann, Dr. E.—Subluxation of the Head of Radius in Little Children. (*Deutsche Med. Wochensch.*, No. 7, 1886.)

5364. Voltolini.—Electrolysis as a Means of Removing Moles and Warts without Leaving Scars. (*Deutsche Med. Wochensch.*, No. 7, 1886.)

Art. 5354. *Lindner on the Etiology of Mammary Tumours.*—A virgin, 16 years of age, suffered for eight days from severe pain in the left mamma, following a blow with a heavy log of wood. There was nothing abnormal before this. The breast was generally enlarged, and very sensitive. No sort of tumour could be felt. Lead lotion was ordered. The pain disappeared, but the swelling remained. The breast was then strapped, but this could not be borne. Three weeks after the injury, incisions were made in several places, but no pus came; the gland-tissue appearing at the cuts had a peculiar brawny appearance. The suspicion, that there might be a malignant new formation, became a certainty, when after eight days luxuriant fungous masses grew from the incisions, with a badly coloured smelling secretion. Amputation of the breast was performed eight weeks after the accident. In the mamma was found a tumour of the size of a small apple, a spindle-celled sarcoma. The patient remained well for five months; then a recurrence of the growth necessitated its removal. The disease again recurred, and in twelve months from the beginning of the affection, the patient died exhausted. The axillary glands were unaffected to within a few weeks of death. The peculiarity of the case lies in the development of the malignant neoplasm as a direct consequence of an injury.

5355. *Areilza on 'Fracture of the Penis.'*—On May 25, P. M., a strong, healthy miner, 27 years of age, got out of bed at four o'clock in the morning to pass urine. The penis being in a state of erection, he bent it forcibly forwards, and in doing this felt a violent crack and acute pain. The penis became immediately flaccid, swollen, and red. Urine, however, was passed without pain. Ten hours after the accident, he was admitted into the hospital. The penis was then found to be very swollen and black-red in colour, 'like an enormous black-pudding in form, consistence, and colour.' The dark discoloration extended to the scrotum and perinæum. The prepuce was so swollen and infiltrated, that the glans could not be seen. The penis was twisted a half-turn on its axis. Micturition was easy. The pain was little, and the general state good. With absolute rest in bed and fomentations the swelling soon subsided, and then a lacuna or depression could be felt in the upper surface of the left corpus cavernosum, 3 centimètres from the pubis. Mercurial inunctions and emollient cataplasms were then ordered, and recovery was rapid and complete.

5356. *Naumann on Tuberculosis of the Peritoneum treated by Laparotomy.*—Naumann has performed laparotomy in four cases of peritoneal tuberculosis. All four cases were married women, aged from 23 to 56 years. In the first case, operated on in 1878, the diagnosis does not seem certain; this patient recovered, but her further fate is not known. Of the three later cases, two died (sepsis?); one recovered, and remained well a year and a half after the operation. Great ascites was found in all the cases. Neither carbolic lotion nor dusting with iodoform was employed, the peritoneum being dressed only with sponges wrung out in carbolic solution.

G. D'Arcy Adams, M.D.

5357. *Labbé on a Case of Total Extirpation of the Larynx.*—M. Labbé, last March, extirpated the larynx from a patient for a tumour of that organ. At a recent meeting of the Académie de Médecine in Paris, M. Labbé gave further information concerning the progress of the case. Fourteen days after the operation, on March 24, the patient was in a satisfactory condition; he could be fed by means of the sound. On June 4, four months after the operation, he was completely cured, the wound was healed, and the glands were healthy. He was imprudent, caught cold, and died from an attack of pneumonia.

W. Vignal.

5358. *Picqué on Perchloride of Mercury as an Antiseptic.*—The author gives in the *Bull. Gén. de Thérap.*, Jan. 15, the following account of the results obtained by Professor Richet in his wards at the Hôtel Dieu, during the first half of the year 1884–85. A 1 per 1,000 solution, applied to fresh wounds, diminishes suppuration, facilitates union by first intention, and prevents pyæmia and septicæmia. Erysipelas is rare, and never severe. Injected into cysts or abscesses, the solution exercises a favourable action on the wall of the cavity. Perchloride of mercury sometimes produces local accidents, such as vesicular and erythematous eruptions. In some cases, also, symptoms of poisoning have been observed, and amongst them the most frequent are diarrhœa and stomatitis. Intestinal ulcers, parenchymatous nephritis, and uræmia have never occurred in M. Richet's wards, but several fatal cases have been described by other surgeons.

J. KESER, M.D.

5359. *Keyes on the Treatment of Hydrocele.*—Dr. E. L. Keyes, of New York, recommends (*New York Medical Record*, No. 8, 1886) the following method of using carbolic acid in the treatment of hydrocele. The instrument used is a glass syringe holding 100 minims, having for its nozzle an ordinary hypodermic needle of medium size. If the cyst be small, the needle is thrust in, and the clear contents drawn off with the syringe; if large, the contents, after the hypodermic needle has been introduced, are drawn off through another aspirating needle; in either case, after the cyst has been emptied, the syringe is 'filled with the pure carbolic acid deliquesced with a little glycerine. The syringe is now screwed again upon the point which has been left sticking in the cyst, and from thirty to sixty minims of the deliquesced acid thrown in. The point is now withdrawn, and the whole operation terminated, with not much more trouble than it takes to give a hypodermic injection.' Little or no pain is said to follow the operation as a rule; and, even when the hydrocele is large, the patient need not be confined to his room for more than forty-eight hours.

DAWSON WILLIAMS, M.D.

5360. *Kosmovsky on Parenchymatous Bleeding after the Use of Esmarch's Bandage.*—Dr. Julian A. Kosmovsky, of Arkhangelsk, details (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, p. 21) the case of a weak, badly nourished, retired soldier, aged 62, with an old syphilitic history, extensive arterio-sclerosis, and inveterate, intractable, cachectic, circular ulcers of the right foot and leg. Yielding to the urgent requests of the patient, the author amputated his leg, an Esmarch's bandage having been previously applied. A number of large and small vessels were ligatured. Troublesome parenchymatous hæmorrhage followed, but was ultimately arrested by cold, raising the limb, and carbolic irrigation. Two or three hours later, however, secondary hæmorrhage occurred, the blood flowing from a drainage-tube in so considerable a stream that arterial origin was suspected. However, on reopening the wound, no bleeding artery or arteriole was discovered, the hæmorrhage being entirely parenchymatous, and taking place over the whole surface of the lungs. It was fairly quickly arrested by the same means, and did not return; but every hope of healing by the first intention was gone, and an enormous loss of blood considerably increased the prostration of the patient, already exhausted. Dr. Kosmovsky was not able to find in literature any other similar instance of *secondary* parenchymatous hæmorrhage occurring several hours after the use of Esmarch's bandage; at all events, the possibility of such an untoward event was deeply impressed on the author's mind, and led him to give up any further use of the bandage in favour of an immediate compression of a main artery of the region involved. [According to Dr. P. A. Pokrovsky, Professor Nasiloff has long ago discarded the employment of Esmarch's bandage.] Attempting to explain the occurrence of secondary hæmorrhage in the case above, the author supposes that the bandage crushed and 'glued together' the degenerated vessels; on its removal, blood first reflowed into more healthy vessels, and thus caused primary hæmorrhage; then it gradually straightened and 'unglued' the crushed diseased vessels, and fresh hyperæmia and bleeding followed.

5361. *Konstantinovsky on Malarial Gangrene of the Scrotum.*—Dr. Mikhail V. Konstantinovsky, of Günib, Dagestan Government, records the following interesting case (*Proceedings of the Caucasian Medical Society*, No. 3, 1886, p. 82). A previously healthy soldier was hired by a farmer to dig up some earth for building a *saklä* (a hut), his work lasting about three hours. A few hours later, the man was attacked with an intense malarial paroxysm. On the next day, a swelling of the dorsum penis, and in the night another febrile paroxysm, appeared. On the third day, his scrotum became swollen. On examining the patient on the seventh day after the exposure, the author found a painless pasty enlargement of the lower segment of the scrotum, the postero-inferior part of which was occupied by a leathery slough, about four fingers' breadth long and three fingers' wide, situated symmetrically on both sides from the raphe, and involving the two external coats of the scrotum. Thirteen days later, the slough fell away, and healthy cicatrisation commenced, the ulcer healing in about six weeks. The treatment consisted in carbolic dressing. Dr. Konstantinovsky regards the case as an instance of malignant malarial fever; the patient inhaled the virus during digging, the febrile paroxysm giving rise to a spasmodic contraction of the peripheral blood-vessels, and leading thus to the scrotal gangrene. Dr. E. J. Krasnogladoff, of Tiflis, has met with several similar cases in certain intensely malarial localities, and has seen sloughing even of the whole integuments of the scrotum.

V. IDELSON, M.D.

5362. *Herrlich on Subphrenic Abscess.*—In a long paper read before the Verein für innere Medicin, Dr. Herrlich describes the following case. A woman came with symptoms that were considered to indicate gall-stone colic. She was 34 years of age, and had had nine normal labours, the last three months before. Eight weeks after it, she was suddenly attacked in the street with violent pain in the upper abdominal region, which she thought to be spasms. The attack was often repeated, sometimes causing complete collapse, the pain extending over the entire right side of the breast. There was pain also in the right shoulder. Vomiting frequently occurred during an attack. She was much reduced. The appearance of jaundice strengthened the opinion that she was suffering from gall-stones, which did not seem incompatible with the fact that there was hepatic dulness. There was also increasing dulness in the right side of the thorax. When the patient lay on her right side, the dulness disappeared from the lowest part of the right side, and a deep tympanic sound took its place, just as in mobile or slightly enlarged liver. This gave rise to doubts that there could be actual enlargement of the organ, whilst the incongruity of the symptoms might be explained by assuming a considerable collection of exuded matter between the liver and diaphragm. A trial puncture was made in the sixth intercostal space on the right side, which liberated an ichorous putrid exudation. This was very thin, but intimately mixed with flakes of pus and lymph. The condition of the patient had become very serious, there being a continuance of feverish attacks, accompanied by shivering, and followed by collapse. On the assumption of a subphrenic seat of the disease, the seventh rib was resected to six centimètres. Behind the costal pleura, which appeared to be purulently infiltrated, there was a closed cavity, from which about fifty cubic centimètres of thick but not putrid matter was discharged. At once there protruded into the operation-wound a tense, globular tumour, whose covering was at once recognised as the muscular part of the diaphragm. A broad incision into the diaphragm liberated a great quantity of ichorous, thin, purulent fluid, after which came about 100 echinococcus-vesicles, from the size of a hazel-nut to that of a hen's egg. The fluid (about two litres) had not the colour of bile. The same rib was further resected 6 centimètres forwards, and the incision into the diaphragm correspondingly enlarged. The diaphragm was drawn forwards, and the sides of the incision united with the outer wound by stitches passing through the muscles and skin. The patient recovered slowly in fifteen or sixteen weeks.

5363. *Hoffmann on Subluxation of the Head of the Radius in Children.*—Dr. E. Hoffmann says that this injury nearly always arises from a strain in pronation, especially if the arm have to bear the weight of the body. Dr. Hoffmann uses the term 'gutter-subluxation' as indicating that the injury often happens when children are lifted by the arms over gutters. The arm hangs down in pronation, or midway between pronation and supination, as if paralysed, and the shoulder appears to be the seat of the injury. By inspection and palpation, nothing particularly wrong is found about the head of the radius. The elbow-joint may be bent to a right angle, but beyond that there is difficulty and pain; supination is particularly difficult. To remedy the injury, one brings the arm into extension and supination and then fixes it, pressing with the thumb on the region of the capitulum. Nearly at the last moment of this movement, one hears a distinct crack, after which the arm is found to be in its normal condition again, and, after being bandaged in a rectangular and supinated position for a week, will be completely healed. [Several articles on the subject will be found in the numbers of the *British Medical Journal* for the present year.]

5364. *Voltolini on Removal of Moles and Warts by Electrolysis.*—Professor Voltolini, of Breslau, has had a battery of five elements made, which is sufficiently powerful for the operation he recommends for the removal of moles and warts. Two kinds of needles can be had of the same maker (Brade of Breslau), one of platinum, and one of steel. The latter needle, intended for very hard warts, must be attached to the negative pole (cathode) to avoid oxidation. Moles and warts must be damped (very hard warts being held in water for five or ten minutes) before the operation. The needles must never be introduced deeper than the level of the skin, nor be allowed to touch one another. The action of the galvanic current may be continued from five to ten minutes at most, the needle being pushed in different directions, whilst water is always allowed to drop on to the part operated on. One operation is, as a rule, quite sufficient. In from two to four minutes the substance of moderately soft warts becomes pulpy. This is the sign that the operation must stop. This pulp dries up, becomes black, and in a week or fortnight falls off without any further treatment, except, perhaps, being protected with plaster; not a trace of mole or wart will then be visible. To produce the pulpy state all over a large wart or mole, it will be necessary to apply the current to different points. The strength of the fluid in the battery must always be borne in mind, in connection with the duration of the operation. JOHN ELLIOTT.

MEDICINE.

RECENT PAPERS.

5365. BROWNE.—A Case of Enteric Fever Complicated with Parotid Bubo. (*Med. Times and Gaz.*, December 1885, p. 839.)

5366. FLINT.—The Cause of Coryza. (*Jour. of the American Med. Assoc.*)

5367. WEST.—The Treatment of Hæmoptysis. (*Brit. Med. Jour.*, December 1885, p. 1163.)

5368. TREVES.—The Treatment of Fæcal Accumulation. (*Lancet*, December 1885, p. 1181.)

5369. THOMAS, W. R.—On Glycosuria. (*Brit. Med. Jour.*, December 1885, p. 1053.)

5370. THURSTAN.—A Case of Spasmodic Asthma Cured by Electricity. (*Brit. Med. Jour.*, January, p. 109.)

5371. BARTOLOMÉ.—Stricture of the Sigmoid Flexure of the Colon. (*Brit. Med. Jour.*, January, p. 190.)

5372. BROWN.—Acute Tonsillitis and Rheumatism. (*Brit. Med. Jour.*, February, p. 248.)

5373. WATERS.—Cancer of the Lungs. (*Brit. Med. Jour.*, February, p. 335.)

5374. HARRIS.—Paroxysmal Coughs and their Treatment. (*Practitioner*, February 1886.)

5375. HAIG.—The Influence of Diet on Headache. (*Practitioner*, March 1886.)

5376. PAVY.—Cyclic Albuminuria. (*Lancet*, March, p. 437.)

5377. FRANÇOIS-FRANCK.—On Gastric *Bruits* Synchronous with Heart-beats. (*Bulletin de la Société de Biologie*, Nov. 20, 1885.)

5378. ZIEM.—On Rose Cold. (*Monatsschrift für Ohrenheilk.*, 1885, Band xix, 6; and *Schmidt's Jahrb.*)

5379. DEBOVE.—On the Contagious Nature of Typhoid Fever.

5380. BAZAROFF, PORFIRY G.—On the Influence of Acute Infectious Diseases on the Course of Chronic Morbid Processes. (*Proceedings of the Caucasian Medical Society*, 1885, No. 18, pp. 433-38.)

5381. TEPLIASHIN, A. P.—On a Case of Blood-lacrymation. (*Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 23 and 24, 1885, p. 355.)

5382. FEDOROFF, P. F., AND GROSS.—On Tapeworms in Arkhangelsk. (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, pp. 32-33, and 58-61.)

ART. 5365. *Browne on a Case of Enteric Fever Complicated with Parotid Bubo.*—In the *Med. Times and Gaz.*, December 1885, p. 839, Dr. Browne communicates a case of a young man, aged 18, who was admitted into hospital with an attack of typhoid fever, and a temperature of 104° F. For two days after admission, the temperature ranged between 102° and 104°·4, and several spots came out. The patient complained of being slightly deaf, and on the third day he was very deaf. The tongue continued to be dry and tremulous. A week later, some pain and tenderness were complained of in the left parotid region, where a swelling was noticed. The temperature, which had been decreasing, again went up, and two or three days later an incision was made into the left parotid gland, evacuating a little pus. This, however, did not cure the swelling, therefore a free incision was made, and several ounces of pus escaped. The patient then made a rapid recovery.

5366. *Flint on the Cause of Coryza.*—In the *Jour. of the American Med. Assoc.*, Dr. Austin Flint publishes a paper suggesting that coryza is not due to cold, but to a parasitic cause. The author states that, when this affection is attributed to cold, there is often no evidence of how the cold was caught. Those most exposed to cold, as sailors, do not get coryza. Though often seemingly due to strictly personal causes, as over-fatigue, loss of sleep, and other forms of exhaustion, coryza is often prevalent, and runs through families as if it were contagious. One of the best remedies for this affection, in its subacute and chronic form, is quinine in two-grain doses, twice or thrice a day. The author mentions that he has been told how the insufflation of quinine and camphor, combined and pulverised, is an excellent abortive remedy in these cases.

5367. *West on the Treatment of Hæmoptysis.*—In the *Brit. Med. Jour.*, December 1885, p. 1163, is noted a paper, read by Dr. Samuel West at the Medical Society of London, on the treatment of hæmoptysis. The author stated that, in severe cases, the cause of the hæmorrhage was often the rupture of an aneurysm in a phthisical cavity. The treatment necessary was rest, which could be obtained partly by position, partly by opium. The author doubted if any good were done by using the so-called hæmostatic remedies. The use of saline purgatives and diuretics was good, but the hæmorrhage tended to cease of itself. All drugs that tended to constrict the peripheral arterioles had an injurious effect, as well as all drugs which tended to raise the blood-pressure.

5368. *Treves on the Treatment of Fæcal Accumulation.*—In the *Lancet*, December 1885, p. 1181, Mr. Fred. Treves enters into a few points on the treatment of fæcal accumulation. Much may be done in many cases by attending to the digestive organs, and to the feeding of the patient. A systematic examination of the stools ought to be insisted on more frequently than it is at present customary. By this means, one could form an accurate notion of the capabilities of the patient's digestive organs. When an actual fæcal accumulation exists, local measures must be taken without delay, enemata forming, without doubt, one of the most efficient means. The injection should be copious, and, when possible, administered in the knee and head, or knee and elbow, or lateral abdominal position. Water, at a temperature of 100° F., is as good as anything else. Mr. Lund, of Manchester, has invented an inflator by which copious injections can be given without the escape of any fluid from the anus taking place whilst the injection is being given, and the patient can even give them himself by this instrument. The author has no faith in the use of the long tube, as it is extremely difficult and only a matter of chance if it be passed beyond the sigmoid flexure. The most important method of treatment in these cases is the employment of massage by an expert. In this country we have but little experience of its use, and many are sceptical of its value; but on the Continent, where this treatment has been in vogue for many years, most beneficial results are obtained.

5369. *Thomas on Glycosuria.*—In the *Brit. Med. Jour.*, December 1885, p. 1053, Dr. W. R. Thomas contributes a paper on the different kinds of glycosuria. Three varieties are described—(1) hepatic diabetes; (2) cerebral diabetes; (3) diabetes accompanying or following other diseases, as Bright's disease, epilepsy, &c. 1. The patient who suffers from diabetes owing to hepatic causes is generally a stout man, who has lived well. The treatment in these cases must be directed mainly to the diet. The patients must be kept strictly within bounds; but if the appetite fail, and they become disgusted with the diet, they can be allowed a reasonable amount of green vegetables. It is of great importance to insist on exercise, and the only medicine needed is a little soda three times a day, and, where it is wanted, opium, which may have to be given in large doses. 2. The patient who suffers from diabetes from cerebral or neurotic causes is a thin spare man, who has been an inveterate worker all his life, and worries about every little thing. In the past he has suffered from dyspepsia, phosphaturia, and oxaluria. The exciting cause is often found to be some great mental trouble—a great loss of money, some family trouble, &c. The treatment in these cases must from the first be rest and change. As regards drugs, the author considers the most useful to be bromide of potassium given at bedtime. Tonics, especially arsenic, are good; and opium in some cases. Diet must be restricted as far as possible, and healthy exercise is most beneficial.

5370. *Thurstan on a Case of Spasmodic Asthma Cured by Electricity.*—In the *Brit. Med. Jour.*, January 1886, p. 109, Dr. Thurstan records the notes of a case of spasmodic asthma cured by electricity. The patient was a coachman, aged 42, possessing distinct gouty tendencies. For many weeks, though under treatment, he only obtained temporary relief, nothing doing him any permanent good. He then tried a well-advertised nostrum, which did much good for a few days, but soon became as bad as ever. When the patient came under Dr. Thurstan's care he had frequent attacks of dyspnœa, with intervals of complete ease. The attacks were most frequent about 3 or 4 A.M., and lasted until the evening. There was an indistinct cardiac impulse in the epigastrium, with increased area of cardiac dulness. The pulsation of the carotids was very distinct, and rhonchi were audible over the right subclavian region, and occasionally on the left side, but resonance was normal. The patient found he was better when he did not take any supper, and learnt to avoid pastry, cheese, &c. After using an interrupted current with a bichromate of potash cell daily for a fortnight along the edge of the sterno-mastoid, the dyspnœa was greatly relieved, but the rhonchi were still audible; the treatment was continued for another fortnight with complete success. Some months later he was seen by the author, and he stated he had been perfectly well ever since the application of the battery. [Since the *Medical Digest* was issued, *vide* sect. 660 : 4, several cases of asthma treated by electricity have been published. Vide *Brit. Med. Jour.*, vol. ii., 1883, pp. 580, 623.—*Rep.*]

5371. *Bartolomé on Stricture of the Sigm Flexure of the Colon.*—In the *Brit. Med. J* January 1886, p. 190, Dr. de Bartolomé records case of a lady, aged 51, who sent for him on acco slight abdominal pains. The patient stated th bowels had not acted for six days, but she was not alarmed, as she had often been in the same state before. The temperature was normal, pulse 90, regular and strong, respirations 18; the abdomen was distended and tympanitic. The patient was ordered to take as little as possible by the mouth, and was given a copious injection of gruel with yolk of egg, castor-oil, and turpentine every twelve hours, and a pill containing one grain of opium, three or four times a day, or oftener if the pain were severe. Her condition continued much the same for about a fortnight; occasionally there was vomiting of bilious matter, when she had a very copious offensive stercoraceous vomit, which, however, did not return, though she continued rejecting the contents of the stomach mixed with bile. The author being certain that some obstruction was present, wished to operate, but the patient refused to have anything done, sinking a few days later from sheer exhaustion. On *post mortem* examination the rectum, at about six or seven inches from the anus, was almost entirely closed by a firm and most remarkable puckering, caused by a firm membranous band, nearly surrounding the bowel. This seemed to have been formed from an attack of peritonitis, just about where the peritoneum is reflected from the spinal column over the bowel; this inflammation must have led to effusion of lymph which, becoming attached by its ends to the sacrum, formed a bridge over the rectum; this gradually contracted, and formed a hard and firm stricture of the sigmoid flexure of the colon.

5372. *Brown on Acute Tonsillitis and Rheumatism.*—In the *Brit. Med. Jour.*, February 1886, p. 248, Mr. John Brown notes the close relationship that exists between acute tonsillitis and rheumatism. If acute tonsillitis be treated early, it rarely goes on to suppuration, and the following mixture is recommended. Sodæ salicyl. ʒjss., pot. bicarb. ʒjss., tinct. aconit. ♏xl., liq. op. sed. ♏xxx., sp. chlorof. ʒij., aq. ad ℥viij.; one ounce to be taken every two or three hours for the first thirty-six hours. The same mixture forms the author's sheet-anchor in acute rheumatism. Mr. A. H. Cameron, of Liverpool, also writes a letter stating his experiences of the connection between inflammatory sore-throat and rheumatism and also its relation with gout.

5373. *Waters on Cancer of the Lungs.*—In the *Brit. Med. Jour.*, February 1886, p. 335, Dr. A. T. H. Waters contributes a lecture on the subject of primary malignant disease of the lungs, which usually comes on in a very insidious manner, and in its earlier stages simulates and frequently complicates, pleurisy, pleuro-pneumonia, or bronchitis. Another condition, with which it may be confounded, is diffused thoracic aneurysm. Cases of pulmonary cancer often exist for a long time, and may even end fatally without causing any pain. The diagnosis from pleurisy is in some cases very difficult, for often in cancer there is a certain amount of pleurisy present; but, when the case has been carefully watched for a short time, the true nature of the disease becomes apparent. As no treatment can cure, it is necessary to give as much ease as possible from pain and discomfort.

5374. *Harris on Paroxysmal Coughs and their Treatment.*—In the *Practitioner*, February 1886, Dr. V. D. Harris contributes a paper upon cough. The special characters of what is termed paroxysmal cough are its uncontrollableness and its violence; it is accompanied by a general muscular spasm. In coughing, there are three factors: (1) a deep inspiration, (2) violent short expirations, with (3) closure of the glottis between them. The conditions with which the author has seen coughs of a paroxysmal character associated are: (1) chronic bronchial catarrh; (2) acute catarrh of the respiratory passages, especially of the bronchi, also other inflammations of the larynx, pharynx, tonsils, &c.; (3) pressure upon the trachea, bronchi, or lung; (4) whooping-cough; (5) pressure upon the recurrent laryngeal nerve or upon the trunk of the vagus. First, with reference to chronic bronchial catarrh; many of these patients suffer alternately from paroxysms of cough and asthmatic attacks. This class is almost always benefited by doses of iodide of potassium, in doses of three to five grains three or four times a day. Cases of acute bronchial catarrh often approximate in character very closely to whooping-cough; and the author finds that both these kinds are much relieved by the combination of tincture of belladonna and bromide of potassium. In an adult, he gives ten minims of the former with five to ten grains of the latter for a dose. Cases of paroxysmal cough, occurring in patients with heart-disease, are clearly reflex, in a majority of cases, and it has been noticed that ten-minim doses of gelsemium sempervirens three times a day prove of great service in many cases. In cough, due to pressure, nothing is so good as morphine injected subcutaneously, beginning with one-sixth of a grain. The author recognises another cause of paroxysmal cough met with in hysterical women. This he treats with general stimulant treatment.

5375. *Haig on the Influence of Diet on Headache.*—In the *Practitioner*, March 1886, Dr. Haig continues a paper, the first portion of which appeared in the July number of 1884, where he narrated a case in which diet had a marked influence in preventing attacks of megrim. The author now considers that the cause of such headache is uric acid. The reasons given for this opinion are founded on—(1) the clinical relationship of megrim and gout; (2) the remarkable way in which this headache is kept in check by a diet poor in nitrogen, or is cured by calomel or salicylic acid, iodide of potassium, or even colchicum; (3) the signs of gout that are found in the family history of patients who suffer from these headaches. The subjects of these headaches do not suffer from any of the acute symptoms of gout, but rather from what is termed by some 'quiet gout.' In many cases it has been noticed that these patients suffer from an irritable hyperæsthetic and easily tired eye, a condition recognised by Mr. Hutchinson, as evidence of a gouty tendency. Dr. Haig now treats megrim by means of small doses of salicylate of sodium, two or three grains being given every quarter of an hour, for three or four doses, as soon as the headache commences. By this means the headache goes away entirely, and shows no sign of return for a considerable period. As to diet, the author recommends abstinence from butcher's meat, cheese, beer, wine, &c. Many patients who leave off meat are free, but directly they recommence eating meat they have a return, and consequently more importance is attached to the regulation of the diet than to the use of drugs for the relief of the headache.

5376. *Pavy on Cyclic Albuminuria.* — In the *Lancet*, March 1886, p. 437, Dr. Pavy again draws attention to a form of albuminuria which he terms 'cyclic.' This affection must be distinguished from ordinary Bright's disease, because the albumen is not always present, but only during a certain part of the twenty-four hours. The following remarkable case is noted. A young man, aged 20, who had always enjoyed good health, consulted Dr. Pavy because he failed to pass a medical examination on account of albumen being detected in the urine. It was discovered that the urine was entirely free in the early morning, but at 10 A.M. and 11 A.M. albumen was always present, sometimes in larger quantities than at others. Towards the afternoon there was less, and almost invariably at bedtime it was entirely absent. Dr. Pavy tried the effect of fasting during the morning, and found that, with the absence of food, the albumen was present just the same. Next he kept his patient in bed until the afternoon. This led to the urine being free from albumen throughout the morning, but it appeared again in the afternoon soon after the patient got up. Two other cases are noted, in both of which the albumen did not appear until after the patient got up and walked about. These cases must be distinguished from Bright's disease, it being important for the medical man to inform his patient of the nature of the affection, and of its less serious import than ordinary Bright's disease.—[*See* also LONDON MEDICAL RECORD, 1885, p. 478.] RICHARD NEALE, M.D.

5377. *François-Franck on Gastric Bruits Synchronous with Heart-beats.*—At a recent meeting of the Paris Biological Society, M. François-Franck made an interesting communication on gastric *bruits* synchronous with the heart-beats in a case of dilatation of the stomach, with probable adhesion of the pericardium). Since the time of Laënnec, several physicians have recorded metallic cardiac *bruits* in cases of dilatation of the stomach; Skoda, Dechambre, Gerhardt, Leichtenstern, &c., mention several instances of this kind. Korynski adds to the number in clinical notes published in 1879 in the *Wiener Med. Presse*, No. 47. M. François-Franck has likewise met with such instances, but in the subject of his communication the phenomena differed in some respects from those hitherto observed. The patient did not present a resonant metallic *bruit*, resulting from an exaggeration of the valvular sound in consequence of the stomach being dilated and filled with gases, but a gurgling systolic *bruit* (*un bruit de gargouillement systolique*) similar to that heard when a thick fluid is beaten. The *bruit* was at its maximum in the epigastrium, but was heard at a distance from it. There are two hypotheses to explain these extracardiac *bruits* of gastric origin. The first supposes that at each systole the heart contracts abruptly, and the heart, stomach, or lungs receive a shock; the second postulates that the *bruit* is the result of the contraction of the ventricles when they empty their contents. The latter theory coincides with M. Potain's explanation of the clinical aspect of the question. He showed that these *bruits* are not systolic, but meso-systolic, appearing at the moment when the ventricles empty themselves. The extracardiac *bruits* of gastric origin are the result of dilatation of the stomach, its walls being flaccid, or of an accumulation of gases or fluids in an organ. In addition to these causes, it is possible that violent systolic contraction of the heart may also enter into the question. Adhesion of the pericardium always increases the force of systolic contraction. Extracardiac *bruits* with contraction of the epigastric surface, synchronous with cardiac pulsation, accompanied by exaggeration of the normal jugular pulse, may be considered as symptoms that indicate with unfailing certainty cardiac adhesion. In the case of M. François-Franck's patient, when the stomach was emptied of its gases and other contents, the *bruit* almost entirely disappeared. The patient, who had been much inconvenienced by its existence, was the first who perceived its disappearance. Nevertheless, auscultation revealed traces of its presence. It reappeared when Vichy water was introduced into the stomach, but the special gurgling noise was absent. This was probably due to the absence of viscosity in the contents of the stomach, which was abundant when the *bruit de gargouillement* was heard.

5378. *Ziem on Rose Cold.*—A man, 28 years of age, consulted Dr. Ziem for a swollen face. The swelling came on at intervals, and attacked most particularly the eyelids. The patient could with difficulty open his eyes, and the tension of the eyeballs caused great pain. The eyes were perfectly normal, but the mucous membrane of the nasal fossa covering the turbinated bones was much congested. The patient, on being questioned, stated that the facial swelling was always accompanied with an exaggerated nasal secretion, and also of the throat. He had suffered from this condition for several years; it overtook him in June, and continued until the end of autumn. The first attack coincided with the time he began to work at a florist's. He attributed his condition to the atmosphere in which he lived, impregnated with the perfume of roses. During the winter and spring he regained his normal condition, because the roses were sent from Italy, and had lost the greater part of their perfume. The most energetic treatment, cauterisation of the nasal mucous membrane, was useless whilst the patient remained at the florist's. As soon as he left the establishment he was cured. The master also suffered from the same form of coryza during the rose season, and was cured when he left his place of business.

5379. *Debove on the Contagious Nature of Typhoid Fever.*—At a recent meeting of the Société Médicale des Hôpitaux, M. Debove read a note on the following cases. He was called in to attend five children of the same family, suffering from typhoid fever. A family of six children, left the provinces to live in Paris, which they reached on Nov. 15, 1885. One of the children was ailing before leaving the country. On the 20th, he presented all the symptoms of typhoid fever. Another brother was seized with typhoid fever on November 23, and died on January 24. A third fell ill on November 29, a fourth on December 17, a fifth on December 29, the sixth escaped. The children ill with typhoid were separated from the others; hygienic precautions were observed, and the linen was disinfected as well as the stools, cesspools, and water-closets. M. Gouffroy observed that M. Debove's note indicated that typhoid fever can be contracted by direct contact. In Germany, as in England, it is believed that the germs of typhoid fever are expelled by the dejecta, and, after undergoing certain modifications, are capable of communicating the disease to healthy organisms. W. VIGNAL.

5380. *Bazaroff on the Disappearance of Psoriasis and Trachoma after Erysipelas.*—Dr. Porfiry G. Bazaroff, of Belyi Klutch, records (*Proceedings of the Caucasian Medical Society*, No. 18, 1885, p. 433) the case of a highly scrofulous soldier, aged 22, who was admitted with general psoriasis vulgaris of two years' duration, severe trachoma of long-standing on both sides, and enlargement of the cervical and submaxillary glands. The treatment failing to relieve any of the patient's extremely obstinate and troublesome affections, the regimental surgeons resolved upon placing him on the roll of 'unfit for service.' About that time, however, the patient was suddenly attacked by erysipelas of the face and head. There was nothing peculiar either in the course or in the treatment of the disease. The erysipelas disappeared in seven days, and with it the trachoma, the glandular swellings and psoriasis (first of the face, then—after two hot baths—of the remaining parts) also disappeared, leaving no trace. 'In fact, in a week an "unfit" became quite a healthy man,' the author adds. Dr. Bazaroff mentions, also, a rather obscure case of a young soldier, who had suffered from daily and nightly incontinence of urine of two months' duration, and who got rid of the symptoms after an attack of erysipelas of the face and head. In another patient, a boy, aged 22 months, with congenital hydrocephalus of the progressive kind, a mild attack of scarlatina was followed by a steady diminution in the bulk of the head (in a month the large circumference lessened a centimètre, the minor 3), an improvement in his general state, &c. Two months later, however, the child died from general convulsions. [Dr. M. Tümpovsky recently published a case of disappearance of ascites from erysipelas (*see* the LONDON MEDICAL RECORD, May 1885, p. 199). Dr. K. Koltchevsky saw a case of trachoma cured by erysipelas (*ib.*, July, p. 296). Dr. Mishtolt's patient was cured by the same disease from sarcoma (*ib.*, January 1884, p. 11). In the *Vratch*, Nos. 38-41, 1882, Dr. F. J. Pasternatzky, of Professor J. T. Tchudnovsky's clinic, details two cases of the disappearance of hepatic ascites under the influence of typhus fever, and a case of renal dropsy cured by relapsing fever. In the *St. Petersburg Med. Wochensch.*, No. 43, 1883, Dr. Schmidt published a case where erysipelas of the chest had caused a rapid disappearance of an enormous pleuritic exudation.—*Rep.*]

5381. *Tepliashin on Blood-lacrymation.*—Dr. A. P. Tepliashin, of Glasov, describes (*Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 23 and 24, 1885) the case of a well-nourished man, aged 46, in whom, soon after a short attack of malarial fever, there appeared profuse epistaxis, and, on the next day, hæmatemesis, blood-stained stools, and hæmaturia. Plugging of the nasal cavities by means of, Bellocq's tube was resorted to. After the plugging the conjunctival sacs were rapidly filled with sanguinolent fluid, which flew down the cheeks for about fifteen minutes. No conjunctival ecchymoses were present.

5382. *Fedoroff and Gross on Tapeworms.*—According to Dr. P. F. Fedoroff (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, p. 32), tapeworms, especially *Bothriocephalus latus*, are very often met amongst the inhabitants of Arkhangelsk. The statement is supported by the experience of Dr. E. K. Berezkin, who met the worm also in dogs, and a fish called *nelma* (Siberian salmon). Many local practitioners are inclined to ascribe the infection with bothriocephalus in many patients to the use of that fish. Dr. A. P. Zatvarnitzky thinks that the infection is sometimes due to the ingestion of salmon, but in other cases to that of snipe (*Lesnaia küropatka*), the ingestion of that bird being a source of bothriocephalus also in dogs. Dr. Gross saw two cases of sudden development of acute enteritis, in one of which the patient passed an enormous quantity of bothriocephalus and then rapidly recovered, but another patient shortly died. At the *post mortem* examination, there were found several large and dense bundles of the worm, completely obstructing the lumen of the small bowel at several spots, and causing gangrene of the intestine down to the ileo-cæcal valve, while the part of the bowel above the obstructions was healthy. According to Dr. Gross's observations, the symptoms caused by bothriocephalus are more distressing than those by tænia solium. V. IDELSON, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5383. MILLER.—The Employment of Cucaine. (*Brit. Med. Jour.*, March, p. 439.)

5384. GREEN.—The Treatment of Profuse Hæmoptysis. (*Brit. Med. Jour.*, March, p. 492.)

5385. SPENDER.—The Early Treatment of Rheumatoid Arthritis. (*Lancet*, March 1886, pp. 439 and 482.)

5386. SMITH.—Apocynum Cannabinum. (*Lancet*, March, p. 508.)

5387. MYRTLE.—On Urethan. (*Brit. Med. Jour.*, February, p. 343.)

5388. RICHARDSON.—Cold Foods and Cold in Stricture of the Œsophagus. (*Asclepiad*, January 1866.)

5389. SCHUBERT.—A Case of General Toxic Symptoms from Cucaine.

5390. SPRIMON, V. F.—On Tincture of Benzoin in Nasal Catarrh. (*Meditz. Obozr.*, No. 3, 1886, p. 295.)

5391. STEPANOFF, EVGENY M.—Notes on Cucaine. (*Meditz. Obozr.*, 1885, Vol. xxiv., Fasc. 15, p. 259.)

5392. BELLARMINOFF, L. E.—On Unfavourable General Effects of Cucaine, after its Local Application to the Mucous Membrane of the Eye. (*Russkaia Meditzina*, No. 33, 1885, p. 604.)

5393. SÜROVTZEFF, VASILY E.—On the Therapeutic Action of Decoction of Fresh Lemons in Intermittent Fevers. (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, pp. 19-21.)

5394. JAKUB, JOSIF J.—Two Cases of the Use of Cucaine in Operations on the Vagina and Perinæum. (*Meditz. Obozr.*, Fasc. i., 1886, p. 44.)

5395. IVASHKEVITCH, B. M.—On Tartrate of Chinoline and Antipyrin in Typhus Fever. (*Proceedings of the Vilna Medical Society*, No. 10, 1885, p. 6.)

5396. WETHERGILL, DR. H. M.—On the Employment of Hydrobromate of Hyoscyamine in the Treatment of the Insane. (*The Therapeutic Gazette*, Detroit, U.S.A., Feb. 15, 1886.)

5397. SANNÉ, DR.—On Kava and its Employment in the Treatment of Gonorrhœa and in Acute Affections of the Urinary Tract.

5398. BERNE.—Obstinate Sciatica cured by Massage. (*Jour. de Méd. de Paris*, March 28, 1886.)

5399. BERGMEISTER.—On Apomorphine. (*Jour. de Méd. de Paris*, March 27, 1886.)

5400. ROTHE, C.—The Hæmostatic Properties of Urtica dioica. (*Pharmaceutische Post*, Sept. 19, 1885.)

5401. AUBERT.—On Belladonna. (*Lyon Médical*, and *Journal de Méd.*, March 27.)

5402. BOISSEAU DE ROCHER.—Dysentery Cured by Ergot of Rye. (*Progrès Médical*, March 6, 1886.)

5403. PEYRONNET DE LAFONVIELLE.—On Neuralgia of the Trigeminus Nerve, and its Treatment by Spray of Methyl Chloride. (*L'Union Médicale*, March 27.)

5404. KRUG.—External Use of Nitrate of Silver. (*Schmidt's Jahrb.*, Band ix. ; and *Jour. de Méd. de Paris*, March 28, 1886.)

5405. SCHRAMM.—Transfusion of Saline Solutions and of Defibrinated Blood in Anæmia. (*Medizin. Jahrbücher*, 1885, part iv.)

5406. FELLNER.—The Physiological Action of some of the Preparations of Hydrastis Canadensis. (*Med. Jahrbücher*, 1885.)

5407. RASMUSSEN, ANKER FRODE.—On the Curative Properties of Caffein and Adonis Vernalis. (*Hospitals-Tidende*, Band iii. No. 49 og 50.)

5408. KRÆPELIN.—The Action of Urethan. (*Neurologisches Centralbl.*, March 1, 1886.)

5409. BALESTRIERI.—Three Cases of Tetanus treated by Tartar Emetic. (*Gazz. Med. Ital. Lombard.*, Feb. 27, 1886.)

5410. VALENZUELA, F.—Inhalations of Nitrogen. (*El Siglo Medico*, Jan. 24, 1886.)

5411. PAOLETTI.—Iodoform in Polyuria. (*Gazz. Med. Ital. Lombard.*, March 13, 1886.)

ART. 5383. *Miller on the Use of Cucaine.*—In the *Brit. Med. Jour.*, March 1886, p. 439, Mr. Shalders Miller contributes some remarks on the use of cucaine. The author has used this drug chiefly in cases of ophthalmic surgery, but he also gives a few hints as to its use in various other affections. In the acute stage of gonorrhœa a saturated solution of boracic acid, containing two or more grains of cucaine to the ounce, quickly relieves the pain and scalding, and soon reduces the discharge to a mere gleet. In chronic coryza and hay-fever, nothing affords as much relief as cucaine. A two or three per cent. solution may be used in the spray for this purpose, or a snuff-powder of starch and bismuth containing one per cent. of cucaine. In a case of obstinate vomiting due to stimulants, a pill, containing a quarter of a grain of cucaine, and one grain of extract of hyoscyamus, produced prompt relief.

5384. *Green on the Treatment of Profuse Hæmoptysis.*—In the *Brit. Med. Jour.*, March 1886, p. 492, Mr. W. E. Green states that he does not regard the use of ergotine in some cases of profuse hæmoptysis as beneficial. The author places more faith in the use of nitrite of amyl, or glonoine; this latter drug sometimes produces nausea and vomiting, both useful desiderata in cases of hæmoptysis. Half a teaspoonful of cayenne pepper in warm water is an excellent remedy; it sounds very heroic, but it is not attended with bad results. The author gives five-grain doses of capsicine in pills instead of cayenne pepper, but their action is not so rapid. An emetic of salt and water is very useful, but it is not so certain as the cayenne, though less unpleasant to swallow.

5385. *Spender on the Early Treatment of Rheumatoid Arthritis.*—In the *Lancet*, March 1886, pp. 439 and 482, Dr. Spender contributes a paper on the subject of rheumatoid arthritis. This disease often develops in seemingly healthy people, who have been suffering from anæmia or defective nerve-tone. The earliest symptoms are subtle, and easily confounded with other things. In reference to treatment, the author places local applications in the foreground. It is not good to apply counter-irritation to a diseased joint itself, but it should be applied at a little distance from the joint. If there be a threatening rheumatoid knee, a ring of linimentum iodi should be painted around the lower part of the thigh, about two fingers' breadth from the knee. If a cantharides blister be applied, it should be always on the cardiac side of a joint, and the blistered surface should be allowed to heal immediately. Another excellent method of counter-irritation is frequent sponging of the affected joints, in the earliest stages, with water as hot as can be borne, the edge of the heat being blunted by covering the part with flannel or layers of muslin. Counter-irritation, when used, should be always of the slow and quiet kind, and the best method of applying this is by means of the Bath thermal waters; if these be resorted to early, much benefit is often derived. Douching and shampooing should also accompany the general bathing; and means have been provided at the Queen's baths, in Bath, to carry out the same plan of treatment as is used at Aix-les-Bains. The use of drugs is not of much use, but a mild inunction every night of the iodide of potassium with soap liniment is attended by much benefit. The English winter must be avoided by those who can afford to spend six months on the Mediterranean sea-coast; and this change must be repeated every year before a complete cure can be effected. Those who cannot afford to leave England must find a dry and not too cold part of the country, avoiding cold winds as much as possible. The medicine *par excellence* for this disease is cod-liver oil, which should be taken daily, except during the summer months. In some cases, small doses of citrate of iron or iodide of sodium do good, and in cases where arsenic agrees it is often of marked value. Attention to proper hygienic conditions and well-regulated diet is essential to success. The great point to bear in mind is the fact that patience must be exercised, and treatment should not be relaxed, even though the disease be not cured for some years.

5386. *Smith on Apocynum Cannabinum.*—In the *Lancet*, March 1886, p. 508, reference is made to a paper read in America by Dr. Andrew Smith on the treatment of dropsy with apocynum cannabinum, a diuretic that deserves further trial. The drug was tried as a last resource in a case of general anasarca, ascites, and œdematous lungs, with extreme dyspnœa and cyanosis. By means of the drug, the urine was raised in quantity from six to thirty ounces in the twenty-four hours, and the urgent symptoms were quickly relieved. In a case of renal disease, with scanty urine and threatening uræmia, the same agent was used, and profuse diuresis excited. The plant is indigenous in America, and has long been known as a good diuretic. It has been called by Dr. Bush 'the vegetable trocar.'

5387. *Myrtle on Urethan.*—In the *Brit. Med. Jour.*, February 1886, p. 343, Dr. A. S. Myrtle states that he has used urethan in over fifty cases as a sedative and hypnotic, and considers it a drug of great value. It acts with good result in cases of general restlessness, sleeplessness, neuralgia, catarrh, certain forms of skin-affections with great irritation, and in rheumatism and gout. One patient, a gentleman, who had suffered from insomnia for weeks, and who could not tolerate opium or chloral, took 15 grains of urethan at bedtime, and obtained most pleasant and refreshing sleep. He awoke without a headache, had a good appetite for breakfast, felt very well, and did not suffer from any interruption to any of the ordinary functions of the body. The only drawback to the use of urethan is its price, but this has lately been much reduced.

5388. *Richardson on Cold Foods and Cold in Stricture of the Œsophagus.*—In the *Asclepiad*, January 1866, Dr. B. W. Richardson writes that, in the treatment of stricture of the œsophagus, it is of moment to impress on the patient the importance of eating and drinking all foods and drinks cold. Heated foods tend to produce contraction of the circular muscular fibres, while cold has a tendency to relax them. Heat irritates and causes pain, cold acts as a sedative. The author also insists on the introduction of cold tubes or bougies in attempting dilatation of these strictures. A cold tube passes much more easily than a warm one. Dr. Richardson always immerses the dilator in chilled butter before passing it. RICHARD NEALE, M.D.

5389. *Schubert on General Toxic Symptoms from Cucaine.*—Frau W., 28, a strong woman, not of a nervous temperament, was in the seventh month of pregnancy. With a view to extraction of a tooth, Herr Bock, a dentist in Nuremberg, injected beneath the conjunctiva over the alveolus 6 cubic millimètres of a 20 per cent. solution of cucaine, a proceeding which he had previously adopted with success in about 140 cases. The tooth was extracted without pain. About ten minutes after the injection the patient had a staring appearance, and complained of obscuration of vision. Soon she said it was quite dark, and finally she fell back unconscious. When seen by Dr. Schubert, half an hour after the injection, the patient was unconscious, lying in a dreamy state (*phantasirend*) with half-opened eyes, and could not be roused. The pulse was eighty, full and strong. The heart-sounds were normal; respiration was tranquil; there was no pallor or cyanosis, no facial sweat. The arms were relaxed; the pupils were of medium size and active. No reflex movements occurred on touching the conjunctiva, or on pricking the face. Subcutaneous injection of ether produced no effect. Inhalation of a drop of amyl-nitrite produced an immediate improvement; the patient moved on being shaken, and gave answers, at first purposeless, but soon correct. Complete recovery soon followed, and she was able to leave in about an hour. There were no subsequent effects experienced. The patient stated that she recollected nothing from the time when the obscuration of vision commenced to the time of her recovery. The eyes were examined with the ophthalmoscope as the patient began to recover; and three days later it was thought that the retinal arteries were somewhat smaller and paler during the attack than at the subsequent examination. W. ADAMS FROST.

5390. *Sprimon on Tincture of Benzoin in Nasal Catarrh.*—In the *Meditz. Obozr.*, No. 3, 1886, p. 295, Dr. V. F. Sprimon, the editor, fully indorses the statements of Drs. A. Kebbell, of York (*Brit. Med. Jour.*, Feb. 28, 1885, p. 430) and W. Brydon, of Hawick (*ib.*, March 28, p. 682) concerning the high value of tincture of benzoin as a remedy for common nasal catarrh. The author advises, however, not only to inhale, but also to paint the nasal membrane with the tincture.

5391. *Stepanoff on Cucaine in Laryngeal and Nasal Cases.*—In the *Meditz. Obozr.*, Fasc. 15, 1885, p. 259, Dr. Evgeny M. Stepanoff, of Moscow, states that he tried cucaine in three cases of removal of laryngeal polypi. In one of the patients, an elderly woman, with a bean-sized fibroma of the right vocal cord, a 20 per cent. solution of the drug was painted four or five times, but failed to relieve the procedure, the new growth being ultimately removed without any further use of cucaine. The woman complained of difficulty in breathing after the paintings. In another woman, aged 35, with small papillomatous vegetations over the anterior corner of a very irritable larynx, a 10 per cent. solution in water with glycerine, with the admixture of some morphine, was injected into the cavity of the organ, four or five successive times, by small portions; it relieved spasms to a degree, thus allowing the removal of the whole diffuse tumour at six sittings. In the third patient, a boy, aged 11, with a large papilloma growing out from the anterior corner of the organ, and filling almost the whole rima glottidis, a 10 per cent. solution was used, the effects being very good, though of short duration. The author invariably resorts to cucainisation when the galvano-cautery is to be applied to the nasal cavity. Complete anæsthesia is obtained only in a few patients, but in an overwhelming majority of the cases considerable relief of the pain involved by the procedure is observed.

5392. *Bellarminoff on Toxic Effects of Cucaine.*—In the *Russkaia Meditzina*, No. 33, 1885, p. 604, Dr. L. E. Bellarminoff, house-physician to Professor V. J. Dobrovolsky's ophthalmic clinic, details five instances of untoward general symptoms occurring after cucainisation of the eye in connection with various operations. Merck's hydrochlorate of cucaine in the form of a 4 per cent. aqueous solution was used, two or three drops of which were instilled every three or five minutes, three or four times before, and several times in the course of, the operations (one case of iridectomy, four cases of extraction of senile cataract). Within one and a-half to two hours after the cucainisation, there appeared general weakness, nausea, obstinate vomiting, giddiness, meteorism, sweats, tremor of the limbs, and pains all over the body. In all the cases, under the administration of wine, the symptoms disappeared in the course of twenty-four to forty-eight hours. The patients were badly or even very badly nourished women, aged 41, 73, 70, 67 and 73. Meanwhile, in healthy men even a prolonged (three to five days) and frequent (four or five times daily) use of cucaine never brought about anything like those unpleasant symptoms. The author feels inclined to think that old age and general exhaustion, especially in women, represent the conditions which favour a toxic action of the drug. Accordingly, he advises a less frequent instillation, and the use of a weaker (2 per cent.) solution in similar subjects. [In one of the patients, a 2 per cent. solution, instilled once before and once during a subsequent operation on her other eye, was tolerated without any awkward symptoms.] Occurrence of the toxic phenomena as above has an 'enormous practical bearing,' since in all five cases a glueing together of edges of the wound, and restoration of the anterior chamber were delayed by recurring vomiting for two or three days, and caused a relatively intense traumatic keratitis. True, the subsequent course and ultimate issue proved favourable in every case; but it is not impossible that a delayed union of the wound sometimes may lead to suppuration of the cornea, panophthalmitis, &c. [Dr. M. J. Reich, of Tiflis, also advises caution in cucainisation of the eye in weak subjects as well as in children. *See* the LONDON MEDICAL RECORD, January 1886, p. 2. A series of similar unpleasant cases were published by Drs. Knapp, Peek, Stevens, Mayerhausen, &c.]

5393. *Sürovtzeff on Decoction of Lemons in Intermittent Fevers.*—Dr. Vasily E. Sürovtzeff, of Arkhangelsk (*Proceedings of the Arkhangelsk Medical Society*, Fasc. ii., 1886, p. 19) administered decoction of fresh lemons (prepared after the method described by Dr. Maslennikoff; *see* the LONDON MEDICAL RECORD, March 1886, p. 105) in tablespoonful doses, repeated every two hours, to two malarial patients, and saw a complete recovery ensuing within two or three days. In one of the cases, quinine and arsenic had been previously administered for a long stretch of time, but without any good. As rapidly, other ten patients recovered, to whom decoction of lemons was given simultaneously with either quinine or arsenic. The author emphatically recommends a fair trial of that plan of treatment of malarial fevers. [According to the tables supplemented to the *Proceedings* and composed by Dr. V. J. Martzinovsky, there were 72 cases of malarial fever in Arkhangelsk during the period from July to December 1885, which makes about 2 per cent. of the whole number of cases of disease.—*Rep.*]

5394. *Jakub on the Use of Cucaine in Operations on the Vagina and Perinæum.*—In the *Meditz. Obozr.*, Fasc. i., 1886, p. 44, Dr. Josif J. Jakub, house-surgeon to the Philanthropic Society's Infirmary in Moscow, reports two cases of gynæcological operations, where he most successfully employed cucaine for local anæsthesia. In one of the patients, an anæmic woman, aged 45, with an old extensive rupture of the perinæum, colpoperineorraphy after Hegar's method was performed, the operation lasting for one and a half hours. The parts were repeatedly (five or six times) painted with a 20 per cent. solution of hydrochlorate of cucaine, both before and during the operation. Not the slightest pain was felt from the beginning to the end. The wound rapidly healed by the first intention. In another patient, a highly nervous and sensitive peasant, aged 21, who complained of dyspareunia and occasional vaginal hæmorrhage, a rose-coloured, easily bleeding, broad pedunculated papillary tumour, of the size of a pigeon's egg, was found on the posterior vaginal wall near the entrance. The parts being dried and then painted with a 20 per cent. solution of cucaine, the tumour was removed, together with a piece of mucous membrane, by means of two semi-elliptic incisions, after which the wound was sewn up with four silk sutures. Here again, the procedure was absolutely painless all through, the wound healing by the first intention.

5395. *Ivashkevitch on Tartrate of Chinoline and Antipyrin in Typhus Fever.*—Dr. B. M. Ivashkevitch, of Vilna, administered (*Proceedings of the Vilna Medical Society*, No. 10, 1885, p. 6) tartrate of chinoline, in half-gramme doses, in twenty cases of typhus fever. Within two hours after a dose the temperature fell 1°·5 C. and more, the pulse became less frequent, the tongue less dry, and the patient felt comfortable. Not unfrequently profuse sweats, and sometimes vomiting, were observed. Antipyrin was given, 0·8 to 0·9 gramme, at intervals of an hour, two or three doses being sufficient for lowering the temperature from 1°·5 to 2° C. Except profuse perspiration, no accessory symptoms were noted. Neither chinoline nor antipyrin was able to alter the course of typhus. Dr. Ivashkevitch relates also a case tending to illustrate the innocuousness of the prolonged use of antipyrin. A lady, aged 48, who was suffering from chronic pneumonia with febrile movements amounting to 39°·5 or 40° C., took antipyrin in doses of 0·8 gramme, twice a day, for one hundred and eighty-one days. In all, about two hundred and seventy grammes of the drug were used, it being discontinued in view of the disappearance of fever. The patient's general state improved; she gained in weight, &c. No awkward accessory effects of any kind occurred. V. IDELSON, M.D.

5396. *Wethergill on the Use of Hydrobromate of Hyoscyamine.*—Dr. Wethergill recommends this drug in the treatment of insomnia in the course of acute delirious mania, and has found it successful when all others had failed. For this purpose he uses a formula containing 1 grain of the hydrobromate of hyoscyamine, 9 fluid drachms of distilled water, and 1 fluid drachm of alcohol. Every 10 minims of this solution thus contain $\frac{1}{60}$ of a grain of the drug. The usual dose as a hypnotic is from $\frac{1}{120}$ to $\frac{1}{80}$ of a grain given at bedtime, preferably by the mouth, but often a much smaller dose may suffice to produce the desired effect; indeed, $\frac{1}{200}$ of a grain has sometimes procured better rest than a larger dose. It is very seldom necessary to repeat the dose, and the cases where it does not succeed are very rare. He has also employed it in the insomnia of agitated melancholia, of the morphine habit, of alcoholism, of neurasthenia, and in those confirmed cases of insomnia from unascertained causes, which generally prove obnoxious to treatment. In nearly all these cases it proved a success, even when given in the daytime (a severe test for any hypnotic). The physiological effect of a full dose—say $\frac{1}{60}$ grain—is manifested within twenty minutes, and consists in transient bewilderment, marked interference with co-ordination, dilated pupils, slow full pulse, and free diaphoresis, accompanied by a slight rise in temperature. There is general muscular relaxation. This amount given at night is generally followed by sleep, lasting from eight to ten hours.

5397. *Sanné on the Employment of Kava in the Treatment of Gonorrhœa and Acute Affections of the Urinary Tract.*—The kava, *piper methysticnm*, belongs to the natural order of Piperaceæ, and is obtained from various islands in the Pacific, where its virtues in gonorrhœa have been known and utilised from time immemorial. Dr. Dupouy, a naval medical officer, having been shipwrecked on the islands of Wallis, had an excellent opportunity of observing its effects on the sailors, many of whom were suffering from gonorrhœa, contracted at Tahiti. It was used, in the first instance, instead of tea, to render drinkable the brackish water, but a remarkable improvement took place in all the cases; the scalding diminished, the flow of urine increased, and they were cured in the course of from ten to twelve days. Dr. Sanné has since used it in the treatment of acute cystitis, prostatitis, &c., with satisfactory results. ALFRED S. GUBB.

5398. *Berne on Obstinate Sciatica cured by Massage.*—Every modern therapeutic means failed to improve a case of sciatica of the left lower limb. The patient was 53 years of age; he was robust, neither gouty nor rheumatic, but had suffered from piles since the age of 18. After the fifteenth massage the patient could walk; after the fiftieth, the patient resumed his usual avocations, and could take long walks.

5399. *Bergmeister on Apomorphine.*—Drs. Bergmeister and Ludwig have discovered that apomorphine has anæsthetic properties like cucaine. But immediately after its application the patient suffers from violent pain; the conjunctiva and eyelids are bloodshot, and, as soon as anæsthesia is obtained, mydriasis appears, accompanied by sickness. If these concomitants could be suppressed, apomorphine would be a valuable anæsthetic.

5400. *Rothe on the Hæmostatic Properties of Urtica dioica.*—This investigator has used tincture of *urtica dioica* for arresting hæmorrhage. He applies to the wound wool plugs or antiseptic gauze impregnated with the tincture. Parenchymatous hæmorrhage is arrested by this treatment, and a clot forms. M. Rothe has plugged the nasal fossæ with this dressing of urtica dioica as a substitute for perchloride of iron, which has many drawbacks.

5401. *Aubert on Belladonna.*—Aubert states that cephalalgia and coryza, resulting from full doses of iodide of potassium, can be prevented by using belladonna. In one instance, in which 5 grammes of iodide were administered daily, 6 grammes of extract of belladonna were also given. In a few days the belladonna was discontinued, and iodism did not return.

5402. *Boisseau de Rocher on Dysentery Cured by Ergot of Rye.*—M. Boisseau de Rocher publishes, in the *Progrès Méd.* of March 6, 1886, notes on a case of dysentery successfully treated by ergot of rye. The patient, a strong man, aged 44, was, on the second day of the attack, in such a prostrate condition that death was apprehended. Calomel was given; thirty-six hours subsequently stomatitis appeared, and the stools were not improved. The pulse was rapid. The general condition was slightly improved by giving the patient alcohol. Ergot of rye was then administered. The number of stools was reduced to two a day; they were free from blood, and were diarrhœal in character rather than dysenteric. Twenty-four hours later the dysenteric stools ceased, and recovery was rapid and complete.

5403. *Peyronnet de Lafonvielle on the Treatment of Neuralgia of the Trigeminus Nerve by Spray of Methyl Chloride.*—In a Paris thesis, the author (*L'Union Médicale*, March 27) reviews the different methods of treatment. The most successful are slow in curing the neuralgia, whereas the analgesic action of methyl chloride is instantaneous. M. Debove was the first who used it; in 1884, he successfully treated sciatica with it. Since then several physicians have used it, and M. Abadie finds it especially efficacious in curing neuralgia of the trigemini nerves. Dr. Peyronnet mentions several cases successfully treated by Dr. Abadie with methyl chloride spray According to the author, the experiments of Waller, Schultze, and Ranvier, on the congelation of nerves, prove that no therapeutic agent combats the pain in neuralgia of the trigemini nerves so efficaciously as methyl chloride. The analgesic effect appears to be the result of the congelation of the terminal expansions.

5404. *Krug on the External Use of Nitrate of Silver.*—Krug recommends (*Schmidt's Jahrb.*, Band ix.; and *Jour. de Méd. de Paris*, March 28) a weak solution of nitrate of silver for spinal irritation, in preference to nitrate of silver pencil. The solution should be 1 per 100 in alcohol, and applied to the seat of pain and round about it, twice a day. The alcoholic solution penetrates more deeply into the tissues than the solid nitrate, and produces slight local anæsthesia by coagulating the albumen. Krug comments favourably on the cooling and agreeable effects of this treatment, which rarely produces inflammation. He recommends that it should be continued during weeks and months; cold compresses applied during the night will enhance the effect of the application of nitrate of silver.

W. VIGNAL.

5405. *Schramm on Transfusion in Anæmia.*—In an article in the *Medizinische Jahrbücher*, 1885, part iv., Dr. Schramm has an article on 'Tranfusion, in cases of Acute Anæmia, of Saline Solutions and of Defibrinated Blood.' The treatment which the author recommends after severe hæmorrhage consists of:—1. stimulants, warmth, depression of the head, and auto-transfusion (*sic*); 2. transfusion with saline solutions, the benefit of which, however, lasts for a very short time when the symptoms are due to the deficient quantity of blood in the body; 3. when these have failed, transfusion with defibrinated blood, which treatment is by no means without danger, and which in extreme cases will not save life. After venesection of dogs to an amount not exceeding 5 per cent. of the body-weight, the number of red corpuscles became again normal at the end of three weeks.

G. N. PITT, M.D.

5406. *Fellner on the Physiological Action of some of the Preparations of Hydrastis Canadensis (Golden Seal).*—Dr. Fellner (*Medizinische Jahrbücher*, 1885) has investigated the action of hydrastis on the blood-vessels, the heart, and the uterus, being induced to do so by the excellent results obtained by Schatz, of Rostock, in 1883, from the administration of the drug in metrorrhagia and menorrhagia. The experiments were done on dogs and rabbits, the drug being given by injection into the veins, skin, or rectum, and by the mouth. The action by these various modes of administration was found similar, variations occurring chiefly in degree. After the injection of a large dose of the liquid extract (6 to 9 grammes) into the external jugular vein, there was rapid rise of blood-pressure, followed by a fall; then another (slighter) rise, also followed by a fall. At the summit of the first rise, there was slowing of the pulse, which persisted; if the dose were repeated, the pulse became quickened, irregular, and finally stopped. The rise of blood-pressure is ascribed to a contraction of the arteries, from excitation of the vaso-motor centre; the fall, to a dilatation of the vessels. This is proved by the effect of injecting the drug after section of the splanchnics, of the cervical cord, and of the depressor nerve in the rabbit. The first slowing of the pulse, which accompanies the primary rise of pressure, is removed by section of the vagi; but afterwards the heart becomes slowed, showing that the drug acts on the heart itself—the author concludes, on the nervous centres of the organ. The action on the uterus was investigated both by inspection and by the graphic method, the horns of the organ being connected with the vertical arm of a right-angled lever writing on a drum. The results obtained, of which tracings are given, are that the uterus contracts when the blood-pressure rises, becoming also anæmic; the contraction and anæmia last as long as the heightened pressure; and then relaxation and congestion occurs. With the graphic method, it was demonstrated that, following each injection of the drug, the uterus contracted, both the body and the cornua. Both of the active ingredients of hydrastis Canadensis acted in this way on the uterus: phosphate of berberin (1 per cent. solution) and hydrochlorate of hydrastin (1 and 10 per cent. solution) were used. The effect of these alkaloids on the blood-pressure and heart was not investigated.

SIDNEY MARTIN, M.D.

5407. *Rasmussen on the Curative Properties of Caffein and Adonis Vernalis.*—Dr. Anker Frode Rasmussen has in two articles in the Hospital Gazette of Copenhagen (*Hospitals-Tidende*, Band

iii. No. 49 og 50) given the results of his experiments upon caffein and adonis vernalis. These drugs have been recommended as substitutes for digitalis, both as 'heart-tonics' and as diuretics. Dr. Rasmussen has tried them for a year in chronic cases, in the wards of Professor Brandes of Copenhagen. He tried caffein in twenty-one cases. He found that it has the power of stimulating the degenerated fatty heart to further exertions. The pulse was found to become quicker with caffein, while it remained slower when digitalis was used. In this form of disease caffein was evidently the most useful, but in mitral deficiency digitalis was found to be of greater service. The preparations which he used were the citrate of caffein, and the benzoate of soda and caffein (caffein natrobenzoicum). To obtain benefit from caffein, it was found necessary to give it up to a gramme of the latter preparation in the day. One advantage which caffein has over digitalis is, that it is not cumulative in its effects. Dr. Rasmussen did not find caffein of use as a diuretic in kidney-disease and chronic pleurisy. The adonis vernalis, a plant belonging to the Ranunculaceæ, found in Russia and Germany, but not a native of this country, has been strongly recommended by some German and Italian physicians. Dr. Rasmussen also has used it in the form of infusion. In his article he refers to several papers in the German medical literature, but does not cite the observations of Dr. Gaetano Traversa (*Giornale Internationale delle Scienze Mediche*, Nos. 8, 9, and 10, 1885), who recommends it highly as a heart-tonic. After trying it for a year in chronic cases, Dr. Rasmussen has not been able to confirm the praises which some experimenters have lavished upon the drug, either as a substitute for digitalis or as a diuretic. In the cases of heart-disease in which he tried it, the pulse generally remained unaffected. If it were irregular it remained irregular, nor was he more successful with it in treating kidney-disease or ascites. W. W. IRELAND, M.D.

5408. *Kræpelin on the Action of Urethan.*—Dr. Kræpelin contributes a short article to the *Neurologisches Centralbl.*, March 1, on the action of urethan, or ethylic carbamate. On physiological grounds, Schmiedeberg recommended this drug as a hypnotic, and since then it has been employed therapeutically by Jolly, Von Jaksch, and Sticker. The reports upon it have hitherto been uniformly favourable. Dr. Kræpelin's experience extends to about 200 administrations in 34 patients. The dose employed varied between 1 and 3 grammes; on two occasions, 4 and 5 grammes were given. The author never observed any unpleasant effect, either during or after the administration of the drug. Only in one case of alcoholic gastric catarrh, vomiting was produced by one of the large doses above mentioned. Loss of appetite, however, has never been observed, even after the employment of the drug for weeks. Urethan acts as a pure hypnotic. About ten or fifteen minutes after taking it, the patient falls into a quiet sleep, that lasts several hours, and from which he wakes without any unpleasant feeling in the head. Should this sleep be interrupted, the patient, as a rule, falls asleep again when the interruption is withdrawn. This, however, depends, of course, upon the size of the dose and on the cause of the disturbance. Urethan is not a very active hypnotic; and, where there is much excitement, it is far inferior to paraldehyde, and is practically useless. In delirium tremens especially, it disappointed the expectation raised by Sticker. Perhaps, if larger doses had been given, the result would have been more satisfactory. Urethan has no power to relieve pain; hence it cannot take the place of morphia. Nevertheless the author, like Von Jaksch and Sticker, has had excellent results from its combination with morphia in some cases of phthisis. When the drug was given in doses of 1 gramme, it acted efficiently only in 54 per cent. of the cases. When given in doses of 2 or 3 grammes, it gave a good result in about 70 per cent. Dr. Kræpelin's patients were all women, mostly suffering from mental disease. The form of alienation, where the drug gave the best results, was melancholia. Here it produced quiet sleep in 77 per cent. of cases. In the excited stages of general paralysis, it often failed to produce any effect; in 60 per cent., however, the larger doses gave a satisfactory result. Many of the patients were very anæmic. The author considers the drug especially useful in cases of mild excitement or depression, accompanied by exhaustion or depressed nutrition. One great advantage possessed by urethan over paraldehyde, in addition to the longer duration of its action, is that its smell and taste are not so disagreeable, and it can be taken in simple solution without flavouring agents. WILLIAM R. HUGGARD, M.D.

5409. *Balestrieri on Tetanus treated by Tartar Emetic.*—At the eleventh meeting of the Italian Medical Association, Dr. Balestrieri communicated three cases of tetanus, observed in the Spedale Grande of Genoa. The first was traumatic, the second traumatic and rheumatic, and the third rheumatic. All three cases were successfully treated with tartar emetic. Of fifteen other cases in the hospital, differently treated, ten died. He gives 5 centigrammes of tartar emetic in one dose on the first day; 20 centigrammes in distilled water, a tablespoonful every two hours, on the second day; and increases the dose daily until 40 centigrammes, or, in one case, 67 centigrammes, were given daily.

5410. *Valenzuela on Inhalations of Nitrogen.*—Dr. Valenzuela's increased experience of inhalations of nitrogen leads him to speak very highly of their efficacy. In pulmonary tuberculosis, in chronic bronchial and alveolar catarrh, and in essential and symptomatic asthma, the results have been most conclusive. The inhalations must be given four or more times in the twenty-four hours, and the nitrogen should be mixed with a certain quantity of air. In tuberculosis, the progress of the disease is arrested, and the existing lesions repaired, if one may judge by the disappearance of the symptoms and physical signs. The following case is an example. A servant girl, aged 23, was admitted, with cough, dyspnœa, want of appetite, wasting, and sweats. There was dulness in the left subclavicular region and supraspinous fossa. Vesicular murmurs were absent; there were moist and subcrepitant râles, and cavernous breathing. On the right side was harsh, rough, exaggerated breathing. The sputa contained elastic fibres. She had night-sweats. The patient began treatment on July 10, and on Sept. 3 was discharged, with percussion-sounds and vesicular murmur everywhere normal, the râles and cavity-sounds having quite disappeared. Three months afterwards, she was found to be in perfect health.

5411. *Paoletti on Iodoform in Polyuria.*—At the eleventh meeting of the Italian Medical Association, Dr. Paoletti reported the history of a case of polyuria. The patient was admitted with a small sore on the leg, non-syphilitic. He complained of great thirst, and was losing flesh; the urine was normal in composition, but the quantity was very great. After the wound had healed, the polyuria remained. As much as 12 litres a day were passed. Under iodoform, 40 centigrammes increased to 1·40 gramme a day, the urine diminished from 12 to 9, 7, 5, 4, and 3½ litres. G. D'Arcy Adams, M.D.

DERMATOLOGY.

RECENT PAPERS.

5412. Fox.—Salicylic Acid and Castor-oil in Psoriasis. (*Journal of Cutaneous and Venereal Diseases*, vol. iii., No. 5.)

5413. Hardaway.—Medicated Spray in Skin-diseases. (*Ibid.*, No. 4.)

5414. Robinson.—Micrological Studies in Ringworm and Favus. (*Ibid.*, No. 10.)

5415. White.—The Treatment of Lupus by Parasiticides. (*Transactions of the American Dermatological Association*, 1885.)

5416. Greenough.—On Psoriasis. (*Transactions of the American Dermatological Association*, 1885.)

5417. Morison.—Case of Tylosis of the Hands. (*Transactions of the American Dermatological Association*, 1885.)

5418. Foulard.—A New Case of Colloid Degeneration of the Cutis. (*Annales de Dermatologie et de Syphiligraphie*, vol. vi., No. 6.)

5419. Leloir.—Observations on the Nature and Pathological Anatomy of Erythema and of Polymorphous Erythema in particular. (*Ibid.*)

5420. Gingeot.—Rational Treatment of Boils. (*Ibid.*, abstracted from *Bulletin Gén. de Thérap.*, 1885.)

5421. Spillmann. — Contribution to the History of Bullous Exanthematic Fever. (*Ibid.*, Nos. 8 and 9.)

5422. Chambard.—A Case of Vaccinal Psoriasis. (*Ibid.*)

5423. Besnier.—Cutaneous Myomata. (*Ibid.*, No. 6.)

5424. Koebner.—A Case of Pruritus Cutaneus Unilateralis after Embolism in the Brain. (*Berlin. Klin. Wochensch.*, 1885, No. 30; *Monatshefte für Prakt. Derm.*, vol. iv., No. 9.)

5425. Bockhardt, Max.—The Surgical Treatment of Chronic Eczema. (*Deutsche Med. Wochensch.*, 1885, No. 30.)

5426. Funk.—The Treatment of Eczema Marginatum. (From *Gazeta Lekarska*, 1885, No. 23; in *Monatshefte für Prakt. Derm.*, vol. iv., No. 10.)

5427. Bergh.—Larva of the Flea as a Pseudo-parasite of Man. (*Ibid.*, vol. iv., No. 7.)

5428. Sehlen.—Alopecia Areata. (Reported from the German *Naturforscherversammlung*; *Ibid.*, No. 11.)

5429. Gerhardt.—The Treatment of Lupus by Cold. (From *Deutsche Med. Wochensch.*, 1884, No. 41; *Ibid.*, No. 12.)

5430. Negretto, A.—The Cure of Angiomata by Mecke's Method. (*Gazz. Med. Ital. Lombard.*, Aug. 1, 1885.)

5431. Durdin.—Prurigo Senilis. (*Lancet*, August, p. 277.)

5432. Harrison.—A New Method of Treating Tinea Tonsurans. (*Brit. Med. Jour.*, September, p. 434.)

5433. Ringworm of the Scalp. (*Brit. Med. Jour.*, November, p. 1003.)

5434. Auld.—Chronic Eczema of the Auricle. (*Lancet*, June, p. 1156.)

Art. 5412.—*Fox on Salicylic Acid and Castor-oil in Psoriasis.*—Dr. Fox, of New York (*Journal of Cutaneous and Venereal Diseases*, vol. iii., No. 5), showed at a meeting of the New York Dermatological Society a girl eight years old who had psoriasis covering all the body. When she was admitted to the hospital, a 2 per cent. solution of salicylic acid in castor-oil was applied to the right arm, a weak solution being used because of the great congestion of the skin. When the patient was shown, the scaling was less, and many of the patches had disappeared, although the disease was extending in other directions. Chrysarobin pigment had been applied to the right leg, and a 5 per cent. solution of salicylic acid to the left leg, producing a marked improvement in the condition of the eruption in the latter situation.

5413. *Hardaway on Remedies for Skin-diseases in the form of Spray.*—Dr. Hardaway (*Journal of Cutaneous and Venereal Diseases*, vol. iii., No. 4) has in generalised pruritus had good results from spraying a lotion of the following sort: carbolic acid (three to four drachms), glycerine (one ounce), and water, a pint. After the bottle of the atomiser has been filled, he sometimes directs the patient to add from five to ten drops of oil of peppermint. The atomiser bottle should be thoroughly shaken before the bulb is compressed, in order to diffuse the peppermint through the mixture, as otherwise it would merely float on the top. In many instances the spray is far superior to mopping on lotions with a sponge or rag, being neater and less troublesome, getting the remedy more evenly and uniformly applied over the surface, and usually giving more speedy relief.

5414. *Robinson on Micrological Studies of Ringworm and Favus.*—Dr. Robinson (*Journal of Cutaneous and Ven. Diseases*, vol. iii., No. 10) states that, with reference to the anatomical seat of the fungus in favus, he never found it to pass into the rete, corium, external root-sheath of the hair, or hair-bulb, unless these parts had become structurally changed from pressure or inflammation. In these observations he is in accord with Unna, and against Malassez, Hoggan, &c., who maintain that the fungus penetrates, by growth downwards, through the rete into the corium. It may be present in these situations, but only when it replaces the tissues previously destroyed. It does not grow in the normal succulent living tissue. The changes which occur in the cutis are those of inflammation and retention. The former varies in intensity from the slightest grade to complete destruction of the epidermis and upper part of the corium, or even of its deeper part, and substitution by cicatricial tissue. The changes produced by retention are cystic degeneration of the sebaceous and sweat ducts. The rarity with which sebaceous glands are found in cases of favus is noteworthy. The author believes they are very early destroyed by the inflammatory process. In tinea trichophytina corporis (*tinea circinata*) the fungus was found in the epidermis, and even in the corium, in small numbers. But few were found in the hair-shaft, although they may be abundant in the mouth of the follicle. The fungus penetrates the corneous layer, and may spread by travelling along the free surface, or between the corneous layers. Having found a suitable nidus, they grow and multiply, and produce the *slight elevation* of the skin observed in ringworm. Unless the inflammation be marked, the lesions of ringworm, the slightly elevated rings or papules, or indications of vesicles, are formed of fungus elements and changed epithelial cells. The changes in the corium may be slight; or there may be sufficient inflammation, with exudation, to produce vesicles or pustules.

5415. *White on the Treatment of Lupus by Parasiticides.*—Dr. White (*Transactions of the American Dermatological Association*, 1885) sketches the recent developments in our knowledge which established the common and bacillus origin of tuberculosis, scrofulosis, and lupus, and the rational attempts which have followed to overcome the latter phase of the disease by the external use of parasiticides. He reported the results of these methods in twelve cases of the disease, which had been under his observation during the past eighteen months. From these experiments, he concluded that we may probably be able to substitute for the painful and unsatisfactory surgical methods hitherto employed against the disease, such very simple applications as are capable of destroying the bacilli in the lupus tissues. Among the most promising of these in his experience were corrosive sublimate and salicylic acid.

5416. *Greenough on Psoriasis.*—Dr. Greenough (*Transactions of the American Dermatological Association*, 1885) has published some statistical tables with reference to psoriasis. According to these tables, a large proportion of the cases proved to be first attacked by psoriasis between the ages of 10 and 40, which is what would be expected from the investigations of other observers; but the fact that, out of 151 cases, twenty showed symptoms of psoriasis before the age of 10, was not in accordance with previous experience; and that six cases should have been exempt from the disease for the first fifty years or more of their life, was still more at variance with preconceived notions. In ninety-seven cases, he had been able to get what appeared to be reliable testimony as to the existence or not of an hereditary tendency. In thirty-one of these, psoriasis probably had attacked some one of the patients' near relations, and in sixty-six the patients felt quite sure that such was not the case. This would give the proportion of cases where definite knowledge on the subject was shown, as proving the existence of an hereditary influence in about one-third of the number of cases.

5417. *Morison on Tylosis of the Hands.*—Dr. Morison (*Transactions of the American Dermatological Association*, 1885) publishes the following remarkable case. A negro, aged 32 years, had both hands much affected with tylosis. He was a fireman on a steamer, and had been working as such for ten years. The constant rubbing of the hands upon the handle of the shovel had caused callosities, and subsequently ulcerations. On the left hand the ulcerations were followed by loss of tissue and bone, so that it was very much deformed. The third phalanx of two fingers was entirely gone, and the other fingers were in a state of disease which showed their ultimate demolition. The thumb of the same hand had a patch of ulceration upon its inside surface, which, in a few weeks, exposed the first joint, the bones becoming necrosed. The ulcerations started first as callosities. There was absolutely no pain, nor had there ever been any. The man picked out pieces of bone himself and threw them away. He had no history of syphilis, was muscular, healthy, and without any disease anywhere else on the body. No treatment, excepting rest, was advised; but the patient, as long as he suffered no pain, was not willing to give up his lucrative occupation.

5418. *Foulard on a new Case of Colloid Degeneration of the Cutis.*—The patient (*Annales de Derm. et de Syph.*, vol. vi., No. 6) was a gardener, 40 years of age, who lived in the country, and was consequently continually in the fresh air. He was in robust health, and had never had any illness. The disease began in July 1878, when the patient noticed on the left cheek small yellowish papules. These were grouped, and were not prominent. They did not exude, and did not itch. In eighteen months the right cheek was attacked, then the bridge of the nose, and finally, at the end of 1882, the forehead. At the time of observation the eruption was scattered over the face, but formed principal groups situated on the two cheeks (particularly on the left one), on the bridge of the nose, at its root, on the forehead, and above the eyebrows. The eruption was made up of small glistening papules of a lemon-yellow colour, varying in size from that of a pin's head to that of a grain of millet. In appearance they were transparent, and seemed to contain serum. This, however, was merely an appearance, for, on pressing them, a sort of yellowish transparent jelly exuded, together with a small drop of blood. On the cheeks, especially on the left one, these papules were grouped together, and formed a perfect layer. Up to the margin of the beard they were disseminated in small groups, being also found isolated and scarcely visible. At the root of the nose they formed a group about two centimètres broad, which extended downwards to the centre of the nose. Above the eyebrows, the elements which formed the groups were small; the left side was more affected than the right, which, moreover, was the last to be attacked. On the left ear, at the back of the concha, several large isolated granular bodies were to be seen, and a small miliary group on the anthelix. The right ear was free. To sum up, colloid infiltration would appear first to attack the bundles of connective tissue, which it causes to swell in such a manner that they agglutinate in compact masses, more or less large, which push back the healthy connective tissue surrounding them. In this way actual pits are formed, whence the masses can be easily enucleated by scraping. It is very probable, although there can be no great certainty on this point, that the colloid infiltration is the result of vascular changes.

5419. *Leloir on Observations on the Nature and Pathological Anatomy of Erythema and of Polymorphous Erythema in particular.*—M. Leloir (*Annales de Derm. et de Syph.*, vol vi., No. 6) remarks that, among the several popular varieties of polymorphous erythema, the lesions, contrary to what Lewin has stated, do not commence subcutaneously but in the cutis itself. The cutaneous vessels at first become dilated, chiefly those in the papillary layer, and in the centre of the cutis, and there is a slight diapedesis of the white corpuscles. These changes produce simple redness and spots on the skin, without any apparent infiltration. The lesions of polymorphous erythema are, in conclusion, those of hyperæmia and inflammatory hyperæmia, although that does not clearly indicate the exact etiology of the disease. The case of Jarisch, in which lesions of the grey matter of the spinal cord accompanied a case of herpes iris, has remained isolated.

5420. *Gingeot on the Rational Treatment of Boils.*—M. Gingeot (*Bulletin Gén. de Thérap.*, 1885, and *Annales de Derm. et de Syph.*, vol. vi., No. 6, states that tincture of iodine, already suggested by M. Boinet, is preferable to all other local treatment. With a badger's-hair brush, the surface of the affected part is thickly painted, so as to form a layer which overlaps the healthy tissue. Layers should be laid on, one over the other, until a deep brown stain is produced. The neglect of this process might endanger the success of the treatment. A single painting often succeeds in stopping a slight or little-advanced attack. It is, however, better to repeat the treatment several times a day, and for several successive days. Even when pus has already formed, success must not be despaired of. For in case of failure, the failure is scarcely ever complete, as the tendency to spread and the intensity of the pathological process are usually considerably lessened.

5421. *Spillmann on the History of Bullous Exanthematic Fever.*—Spillmann (*Annales de Derm. et de Syph.*, vol. vi., Nos. 8 and 9), after referring to a case previously reported by himself and one reported by Gibier, relates another case of fever, accompanied by a bullous exanthem, in which the symptoms were those of an infective disease. Bacteria are stated to have been found in the liquid of the bullæ, in the blood, and in the urine. The patient died. Histological examination showed the following. 1. The blood contained round spores in the serum. They were usually isolated, but sometimes joined in couples, though never in a greater number. These spores, which were rather difficult to find, on account of their mobility, were in small number, and measured only from $\frac{7}{10000}$ to $\frac{13}{10000}$ of a millimètre in diameter. 2. In the serum of the recently formed bullæ numerous disconnected epidermic cells were seen, as were also some red blood-corpuscles and leucocytes. The latter were present in greater number in the less recently formed bullæ. They were seldom found isolated. Usually they were grouped in twos and threes, so as to present the form of a short straight nodulated rod. They were distinctly larger than those in the blood, their average length being $\frac{13}{10000}$ of a millimètre. 3. The urine contained nodular bacteria, formed of from four to ten spores; also a certain number of irregular groups containing from twenty to thirty individuals. Besides these, there were some isolated spores. In this liquid, both the bacteria and the spores were, as a rule, larger than those in the serum and the blood, and grew to an average thickness of $\frac{20}{10000}$ of a millimètre. Nowhere was a bacterium to be found, which was not broken up into spores. All these elements were in motion, with a gyrating movement in the case of isolated spores; undulating in the case of rather elongated bacteria; and oscillating in the case of those which did not possess more than two or three spores. M. Spillmann inoculated a rabbit in the groin with liquid taken from a bulla. The animal's health was is no way disturbed by the injection. At the end of four months, there was nothing abnormal.

5422. *Chambard on Vaccinal Psoriasis.*—Chambard (*Annales de Derm. et de Syph.*, vol. vi., Nos. 8 and 9) reports a case in which psoriasis followed vaccination. The patient, a boy, 5 years old, was vaccinated for the second time with animal lymph. On the third day after inoculation, he had constitutional symptoms: extreme lassitude, fever, thirst, anorexia, &c. These were so intense as to make his parents believe, for a moment, that he had small-pox. Three red nodules appeared at the same time on his left arm, exactly on the inoculated parts. These pimples itched so much, that the child could not be prevented from scratching them and making them bleed. On the same day (?) similar papules appeared on the right arm. During the next four or five days the eruption successively attacked, first the nether limbs, then the trunk, and lastly the left arm (on which it had commenced). On their first appearance, the eruptive elements were in the form of dry turgid pimples, which were very itchy, and contained neither pus nor serum. After five or six days, they became covered with scales. At first, therefore, they were papular, and then papulo-squamous; and at no stage of their development were they of the vesicular or pustular type. A week after vaccination, the child was brought to the vaccine station, and Chambard noticed the following condition. His general health was good, although he appeared slightly pale, and his appetite had not quite returned. The eruption, which was very marked, consisted of rounded papules, varying in size from that of a very small pin-head (psoriasis punctata), to that of a centime (psoriasis guttata). They were covered with scales, which, although rather thin, were dry and shining, like the typical psoriasic scales. When they were pulled off, a reddish-yellow or copper-coloured surface was laid bare, on which small punctiform hæmorrhages were started. These papules no longer itched, and the child had ceased to scratch itself for several days.

5423. *Besnier on Cutaneous Myomata.*—M. Besnier was the first (in 1880, 'Les Dermato-myomes,' &c., in *Annales de Dermatologie*, 2e Série, vol. i., 1880, p. 25) to call attention to the occurrence in the skin of disseminated tumours composed of smooth muscular fibre. He now (*Annales de Dermatologie*, vol. vi., No. 6) calls attention to two similar cases which have since been published. At present, four cases have in all been put on record, three of them having been observed during life, and one (by Verneuil) having been detected after death by histological examination. In the three cases observed during life, the patients were 50 years of age and upwards, and no cause could be found for the disease. The evolution of the disease had been slow, having taken place over a period of years. The first manifestation, which gave rise to no symptoms, was the appearance of a lenticular spot, or slight papule, or (in one case) a small ecchymotic spot. In one case the tumours were very tender on pressure, and in another were the seat of paroxysmal pain, differences depending on the relation of the tumours to the nerve-fibrils. The tumours, which developed one after the other, were not symmetrical; were chiefly lenticular or pisiform, and of a rose or red colour or colourless. Clinically, the diagnosis was made by a process of exclusion, and confirmed by microscopic examination. They are non-malignant, and may be extirpated without fear of relapse. They do not ulcerate.

5424. *Köbner on a Case of Pruritus Cutaneus Unilateralis after Embolism in the Brain.*—Dr. Köbner (*Berliner Klin. Wochensch.*, 1885, No. 30; *Monatshefte für Prakt. Derm.*, vol. iv., No. 9) reports the following case. A patient, 36 years old, who in her ninth year suffered from acute articular rheumatism with endocarditis, and had a similar attack in her twentieth year, was seized in June 1882 and in March 1883 with paralysis of the left side, due to an embolism in the brain. In March 1885 violent itching, which continued day and night, was experienced in the paralysed side. On the right side the itching was limited to a small circumscribed spot. No change could be detected in the skin of the affected side; but on this side the temperature was lower, the perspiration was absent, and urticaria factitia, from which the patient suffered, was here less marked. Relief was afforded by rubbing in twice daily an ointment composed of chloral and triturated camphor, āā 5 parts, vaselin, 50 parts.

5425. *Bockhardt on the Surgical Treatment of Chronic Eczema.*—Dr. Max Bockhardt (*Deutsche Med. Wochensch.*, 1885, No. 30) recommends the following drastic treatment in chronic eczema. The crusts having been removed, the whole affected surface is scarified with a double-edged lancet in two directions at right angles to each other. After the bleeding has been checked, the surface is rubbed with wadding or charpie, soaked in solution of potash, until the upper thick epidermic layer begins to loosen. Then the potash solution is washed off, and the surface covered with diachylon ointment or olive-oil. After twenty-four hours the dressing is removed, and a water-compress applied. The appearance then resembles an ulcerated surface, and is then dressed, once in three days, with pyrogallic ointment or solution of nitrate of silver. The cure is complete in fourteen days to four weeks. Relapses do not occur, and the elasticity and flexibility of the skin are not affected.

5426. *Funk on the Treatment of Eczema Marginatum.*—Funk (*Gazeta Lekarska*, 1885, No. 23; *Monatshefte für Prakt. Derm.*, vol. iv., No. 10) recommends for this affection—℞ acid. salicyl. 10, ichthyol. pur. 20, sp. vin. rect. 100. To be well rubbed in with a brush twice daily, and the part to be then powdered. A severe case, which involved two-thirds of the entire surface of the skin, and which had lasted eighteen years, was cured in three weeks by this treatment.

5427. *Bergh on the Larva of the Flea as a Pseudo-parasite of Man.*—Dr. Bergh (*Monatshefte für Prakt. Derm.*, vol. iv., No. 7) describes a case in which the larva of the common flea was present in great numbers amongst the psoriasis scales of a woman who suffered from this disease. The case is, so far as literature is concerned, probably unique. Dr. Bergh points out that very little has been hitherto known of the larva of the flea, and he gives a good description of it, illustrated by wood-cuts.

5428. *Sehlen on Alopecia Areata.*—Dr. Sehlen (*Monatshefte für Prakt. Derm.*, vol. iv., No. 11) demonstrated to the members of the section for dermatology of the German *Naturforscherversammlung* in Strasburg, microscopic preparations from a typical case of alopecia areata in which micrococci were seen in characteristic arrangement in the hair-sheaths. He laid stress, in regard to the etiology of the disease, on the constancy with which these organisms were found. Lassar remarked that several years ago he had pointed out the infectious nature of alopecia areata to the Medical Society of Berlin. Von Sehlen also brought forward examples of contagion. He further remarked, that after the hair had been partly broken up by the specific organism (*bacterium decalvans—Rep.*), other organisms found access to the hair and developed in it. But whilst these were inconstant, the specific organism was constant.

5429. *Gerhardt on the Treatment of Lupus by Cold.*—Gerhardt (*Deutsche Med. Wochensch.*, 1885, No. 41; *Monatshefte für Prakt. Derm.*, vol. 4, No. 12) reports that he has obtained good results in four cases of lupus by treatment with cold. The patients were kept recumbent during the application, and twice daily for three hours an ice-bag was suspended over the affected part so as to come into contact with it without causing pressure.

G. Thin, M.D.

5430. *Negretto on the Cure of Angiomata by Mecke's Method.*—This method consists in painting the angiomata with a mixture of collodion and corrosive sublimate. The whole surface affected is painted with four coats of the solution. About the fourth day the crust begins to loosen at the edges, and a little pus exudes; the application is then to be renewed over the crust, and this is to be done every four days until the angioma is cured. This method was successful in two cases of vast telangeiectasis of the face, one mentioned by Fiorani, and the other by Negretto. In the latter case, a small portion of the tumour only was painted at a time. Even in deep thick angiomata, cure results more quickly than from any other plan of treatment. It is not adapted to the treatment of cases in which the mucous surface is involved. Mecke's formula was 4 parts of corrosive sublimate to 30 of collodion. Negretto finds that a mixture of 2 parts in 30 answers equally well. A very good and not unsightly cicatrix results.

G. D'Arcy Adams, M.D.

5431. *Durdin on Prurigo Senilis.*—In the *Lancet*, August 1885, p. 277, Dr. Durdin writes that he has a patient suffering from prurigo senilis, who derives great comfort from the external application of iodine to the unbroken surface of the skin; it causes smarting for about five minutes after being applied, and then gives relief to the itching.

5432. *Harrison on a New Method of Treating Tinea Tonsurans.*—In the *Brit. Med. Jour.*, September 1885, p. 434, Dr. A. J. Harrison contributes the results of his experience in the treatment of tinea tonsurans. From a number of experiments conducted by the author, he has found that the best method of treating this disorder is to use a powerful combination of remedies. The hair being cut short all over the head, the diseased patches are washed with a solution of liquor potassæ and iodide of potassium, half a drachm of the iodide to every ounce of liquor potassæ. After a few days, the patches are well rubbed with a solution of perchloride of mercury in water, in the proportion of three grains to the ounce. This treatment must be persisted in for some time, the two solutions being used for a few days alternately. The other parts of the hair, which are not affected, should be rubbed with a solution of glycerine and carbolic acid in order to keep the disease from spreading. Dr. Harrison alleges that by the above means the roots of the hairs are acted upon by the liquor potassæ, and that, when the mercuric chloride is applied, the two substances unite in the hair-follicle, so that biniodide of mercury is formed, thus bringing one of the most powerful parasiticides into direct contact with the seat of the disease.

5433. *Ringworm of the Scalp.*—In the *Brit. Med. Jour.*, November 1885, p. 1003, a correspondent recommends the following for the treatment of ringworm of the scalp. To a drachm of calomel add one ounce of tincture of iodine; a red precipitate is formed, with a clear supernatant fluid. Allow the phial to stand for a few days, shaking it frequently. Take a camel's-hair brush, and paint the parts affected with the ringworm and a clear margin beyond. One or two applications generally suffice. In a subsequent number, practitioners are cautioned in using this very strong application.

3534. *Auld on Chronic Eczema of the Auricle.*—Mr. A. G. Auld states in the *Lancet*, June 1885, p. 1156, that he has readily cured several obstinate cases of chronic eczema of the auricle by two or three weak applications of croton-oil in absolute alcohol. The cause of the disease appeared to Mr. Auld to be pure neurasthenia, and not in any way constitutional. Richard Neale, M.D.

SYPHILOGRAPHY.

RECENT PAPERS.

5435. Horand.—Acneiform Syphilide of the Nose (*Annales de Derm. et de Syph.*, No. 7, 1885, p. 385.)

5436. Trousseau.—A Case of Iritis in Inherited Syphilis in a Child Six Months Old. (*Ibid.*, p. 415.)

5437. Ménétrier.—Cerebral Symptoms at the Beginning of the Secondary Stage of Syphilis. (*Ibid.*, p. 421.)

5438. Baudry.—Chancre of the Eyelid. (*Union Méd.*, No. 28; and *Annales de Derm. et de Syph.*, No. 7, 1885, p. 442.)

5439. Leloir.—On the Diagnosis between Infecting Chancre and Herpes. (*Jour. de Connaissances Méd.*, No. 14; and *Annales de Derm. et de Syph.*, No. 7, 1885, p. 442.)

5440. Potain.—Pulmonary Syphilis. (*Jour. de Méd. et de Chirurg. Pratiques*, and *Annales de Derm. et de Syph.*, No. 7, 1885, p. 447.)

5441. Gangolphe.—On Tertiary Syphilitic Osteo-Arthritis. (*Annales de Derm. et de Syph.*, Nos. 8 and 9, 1885, p. 449.)

5442. Spillmann.—Mercurial Soap in Place of Mercurial Ointment. (*Ibid.*, p. 496.)

5443. Heulz.—Tubercular Syphilide Forty-four Years after Contagion. (*Ibid.*, p. 503.)

5444. Raoult.—A Case of Labio-glosso-laryngeal Paralysis of Syphilitic Origin. (*Ibid.*, p. 505.)

5445. Morel-Lavallée.—Cerebral Syphilis simulating Tubercular Meningitis. (*Ibid.*, p. 508.)

5446. Profeta.—Acquired Syphilis of the Heart and its Serous Membranes. (*Ibid.*, p. 561.)

5447. Reclus.—On Molluscum Fibrosum and Syphiloma of the Ano-rectal Region. (*Arch. Gén. de Méd.*, No. 9, 1885.)

5448. Keyes.—'Mooted Points in Syphilology.' (*Annals of Surgery*, No. 10, 1885.)

5449. Hewetson.—The Treatment of Syphilitic Keratitis by Syndectomy without Medicines. (*Brit. Med. Jour.*, Nov. 28, 1885.)

5450. Cadell.—Urethral Discharge in Secondary Syphilis. (*Ibid.*, Dec. 5, 1885.)

5451. Bowie.—Inflammation of Cowper's Glands. (*Lancet*, Nov. 21, 1885, p. 947.)

5452. Moore.—Gummata of the Liver in a Child. (*Ibid.*, p. 950.)

5453. Matthews.—Diphtheria Complicating Syphilis. (*Ibid.*, Dec. 12, p. 1091.)

5454. Silcock.—Syphilitic Ulcerative Tracheitis. (*Ibid.*, Dec. 19, p. 1140.)

5455. Neisser.—On the Treatment of Gonorrhœa. (*Tageblatt der 58 Naturforscher-Versammlung in Strasburg*, and *Centralblatt für gesammte Therapie*, No. 1, 1886.)

5456. Queirolo.—On Enlargement of the Spleen in Recent Syphilis. (*Gazz. Med. Ital. Lombard.*, March 13, 1886.)

5457. Atkinson.—The Treatment of Gonorrhœa. (*Practitioner*, February 1886.)

Art. 5437. *Ménétrier on Cerebral Symptoms at the Beginning of the Secondary Stage of Syphilis.*—The patient in this case, a man aged 26, was admitted into the Hôpital Saint-Louis, under the care of M. Fournier, on Jan. 17, 1885. The history was that, at the beginning of November 1884, the man had noticed a sore on the glans penis. He was treated by a druggist with local applications only. He felt quite well in general health till Jan. 14, when violent headache came on. On the day of admission he had first noticed weakness of the right leg and arm, but he was able to walk to the hospital. On examination, on Jan. 18, the face was normal in repose, but on attempting to speak the mouth was seen to be drawn towards the left side. The orbicularis muscles of the eyelids were not affected. The tongue pointed to the right. Articulation was defective. The soft palate was not affected. The right arm was feeble, and also the right leg. The patient could walk with assistance, but the right foot was dragged. The left leg was also weak, but to a less extent. The patellar reflex was exaggerated on both sides. Sensation was not affected, nor was vision, but hearing was defective on the right side; this, however, had been the case for years, and there had been also a purulent discharge; examination showed an old perforation of the *membrana tympani*. The man spoke badly and stammered, but this seemed due solely to defective movement of the tongue, and not to aphasia. On the glans penis was a brown scar, and in the right groin there was multiple indolent glandular enlargement. On the trunk, a characteristic fading roseola was visible. The sounds of the heart and lungs were normal, and the urine was free from albumen and sugar. The headache had subsided the day before admission. Under iodide of potassium internally, and mercurial inunction, improvement soon took place, and by March 20 the patient had recovered and was discharged.

5438. *Baudry on Chancre of the Eyelids.*—M. Baudry, of Lille, reports two cases in which children suffering from catarrhal ophthalmia were infected with syphilis by the saliva of syphilitic persons, which was used to remove the secretion from the edges of the eyelids. In one case, the source of contagion was the sister of the child's nurse, and in the other the child's own mother.

5439. *Leloir on the Diagnosis between Infecting Chancre and Herpes.*—M. Leloir points out that, when the syphilitic sore is pressed between the fingers, little or no secretion comes to the surface, and, even if any appear the first time, it is only with the greatest difficulty that the experiment can be repeated; but in the cases of herpes, repeated pressure will reproduce a drop of secretion a great number of times. The form of a syphilitic induration, again, is not altered by squeezing; while, if the base of a herpetic spot be œdematous, the swelling may be flattened by firm and prolonged pressure.

5440. *Potain on Pulmonary Syphilis.*—M. Potain indicates the following signs as those which may be useful in the differential diagnosis between tubercle and syphilitic disease of the lung: 1. The association of syphilitic lesions with a pulmonary affection indicates syphilitic disease. 2. Tubercle prefers the apex, syphilis the middle portion of lung. 3. Hæmoptysis and fever are rare in pulmonary syphilis; further, when cachexia is present, it does not correspond with the extent of the lung-mischief, which is always tolerably limited. 4. The presence of bacilli is a sign of tubercular phthisis; but, if they be not found, tubercle cannot therefore be excluded. 5. The results of treatment can only be considered conclusive under certain conditions; *e.g.* a syphilitic person who is also tuberculous may improve under treatment which improves the general health; but, when amelioration is rapid and complete, the syphilitic nature of the disease becomes evident.

5441. *Gangolphe on Tertiary Syphilitic Osteo-arthritis.*—In this paper, the author deals with the pathological anatomy of one variety of syphilitic disease of the joints, namely, tertiary osteo-arthritis; and the conclusions at which he has arrived are based upon the morbid changes found in five cases, two of these having been examined by the author himself; the remaining three are quoted from Lancereaux (*Traité de la Syphilis*, 2nd edition), Méricamp (*Thèse de Paris*, 1882), and Schuller (*Bericht über die Verhandlungen der Deutsch. Gesell. für Chirurg., xi. Congress*) respectively. M. Gangolphe is of opinion that the existence of only one kind of tertiary joint-affection (the osseous form) is actually proved; but cases published by Gies (1881), Schuller (1882), and Virchow (1884), point to the supposition that there exists another variety of joint-affection, characterised especially by chondritis with star-shaped cicatrices and nipple-like projections, thus producing a change bearing some resemblance to the lobulation seen in the liver when attacked by atrophic cirrhosis. The lesions in osteo-arthritis present different characters, according to the period at which they are examined. The affection begins by the formation of a gumma in or near the epiphysis, and, unless the growth remain encysted, it ends by perforating the cartilage. The synovial cavity then becomes filled with sero-purulent fluid. The morbid change extends more and more both in the bone and the cartilage, and the gaps thus resulting from loss of substance become lined by a smooth reddish new membrane. The ligaments remain intact. The synovial membrane is thickened, but without fungosities, and the absence of these, the adhesion of the remaining cartilage to the subjacent tissue, the absence of Koch's bacilli, and the microscopic appearances, serve to distinguish the syphilitic from tuberculous lesions. Further distinctions are the absence of any considerable sequestrum, and of patches of eburnation of whitish colour, which frequently accompany osseous tubercle. Recovery may take place under specific treatment, or even spontaneously, but deformities of the articular ends of the bones often occur; such deformities are clearly distinct from those due to rheumatic arthritis. From a clinical point of view, syphilitic osteo-arthritis is characterised by effusion of fluid variable in kind, and often small in quantity, by crackling of the joint, by the multiplicity of joints attacked, and by the relative indolence of the lesions. The joint indeed retains its normal functions to a degree that renders it difficult to suspect the extent of the disorder during life. In some cases there is more or less deformity of the articular extremities, and sometimes swelling of the diaphysis. Fibrous ankylosis may also result from osteo-arthritis. In consequence of the marked tendency to spontaneous recovery, operative interference is very rarely indicated.

5442. *Spillmann on Mercurial Soap in Place of Mercurial Ointment.*—M. Spillmann recommends the use of a mercurial soap prepared as follows. The oil used must be pure olive-oil, saponified in the ordinary way with caustic potash. The soap thus obtained is to be twice precipitated, so that all trace of free alkali may be got rid of. The soap is then put to dry to get rid of excess of moisture, and is afterwards dissolved in half its weight of neutral glycerine. Such a soap will take up its own weight of mercury by simple trituration. It is thus of the same strength as mercurial ointment (*onguent Napolitain*), over which it has the advantage of being soluble in water, and thus easily removed by washing, while, being neutral, it does not cause irritation of the skin. In using the soap, the part to be rubbed, as well as the hand that rubs, must be first moistened; and afterwards the site of the rubbing is covered with thin impermeable paper, kept in place either by a sleeve or by bathing drawers, according to circumstances. In twenty-four hours the part is to be washed with water, dried, and powdered with rice-powder.

5443. *Heulz on a Case of Tubercular Syphilide.*—A man, aged 65, came under the care of M. Fournier with a tubercular syphilide on the thighs. The reason for publishing the case is that there was a history of primary and secondary syphilis forty-four years previously, and of no other symptoms in the meantime. The patient had only undergone specific treatment for about two months at the time of the early symptoms.

5445. *Morel-Lavallée on Cerebral Syphilis simulating Tubercular Meningitis.*— A lady's maid, apparently from 25 to 30 years old, was admitted into the Hôpital Lariboisière (under the care of M. Siredey) in a state of unconsciousness, with a temperature of 100°·8, a normal pulse, dry tongue, and sordes on the lips. In the absence of any more definite signs, typhoid fever was thought probable. Next day, by the grimaces the patient made when pinched, it was noticed that the lower right side of the face was paralysed. Upon this M. Siredey immediately thought of tubercular meningitis, and ordered purgative enemata, iodide of potassium, and ice to the head. Temperature 102°·4. Eight days after admission the patient moved and answered questions, and next day could talk and move all four limbs. In presence of this improvement, the diagnosis again changed; it being thought hardly possible to explain it otherwise than by the presence of specific lesions, which had been modified by the iodide. The quantity of this drug was then raised to four grammes, and mercurial inunction was ordered as well. Twenty-four days after admission the patient had recovered, the facial paralysis having almost disappeared. The history given by the woman after she became conscious was, that two or three days before being brought to the hospital she had been seized with violent frontal headache, which had obliged her to leave her situation, and that she had become unconscious on the day of admission. The diagnosis of syphilis was based entirely on the fact of recovery under specific treatment. There was no sign or history of syphilis, either hereditary or acquired. The author thinks it must have been a case of *syphilis ignorée.*

5446. *Profeta on Syphilitic Disease of the Heart.*—The following case is quoted by M. Jullien from a work on venereal diseases (not yet published) by Dr. Profeta, of Palermo. A man, aged 32, of fine physique and temperate habits, contracted syphilis at the age of 28. The primary sore was extensive, and the induration copious. Alopecia, severe pain in the head, and a confluent papular syphilide followed. These symptoms disappeared, almost without treatment, in twelve months. At the beginning of November 1882, thirty-four months after the apparent cure, the man began to feel difficulty in breathing, and palpitation on becoming fatigued or walking quickly. A fortnight later, bronchial catarrh came on, accompanied by a singular smallness of the pulse. Rest and digitalis afforded no relief. At the end of December the man had two attacks of 'faintness,' and also noticed three lumps on the forehead, and others on the scalp, the legs, and the soft palate. At this time Dr. Profeta was consulted, and at once diagnosed gummata in the situations above noted, the soft palate being already perforated. The cardiac trouble persisted, but there was no *bruit*. Syphilitic disease of the heart was diagnosed, and subcutaneous injections of calomel and iodide of potassium internally in increasing doses were ordered. After six days of this treatment there was great improvement, and by the forty-fifth day all the heart-symptoms had disappeared.

5447. *Reclus on Molluscum Fibrosum of the Anus and Rectum.*—M. Reclus gives full details of a case which he finally diagnosed as one of molluscum fibrosum of the ano-rectal region, but which bore a remarkable resemblance to syphilitic disease. The patient was a medical man, who consulted M. Reclus in April 1885. Around the anal orifice were a number of growths, some small, rounded, and sessile, others larger and pedunculated. The skin covering them was red, moist, supple, and not ulcerated. The growths also extended within the anus to the lower part of the rectum. The tumours obstructed the anal orifice, and gave rise to much pain and trouble in defæcation, accompanied by a bloody discharge; but there was no real stricture, and the rectal mucous membrane was normal. The affection looked as though it were syphilitic, but the history was all against this. The patient stated that his trouble began in 1870 with pain before and after defæcation, due to a fissure. In 1872, an eruption and an abscess appeared in the cleft between the buttocks. In 1875 two abscesses were incised, and were followed by an ulcer, which did not heal for three months. In 1877 the patient went to Saigon, and while there suffered from dysentery. About the same time also two lumps first appeared at the margin of the anus. These were removed by ligature, but soon afterwards others formed, with symptoms of acute rectitis. In 1880, the growths were destroyed with the thermo-cautery by M. Duplouy, but healing did not take place. The tumours reappeared, and a year later had become as large as before. Some of the growths were examined by M. Malassez, who found their structure similar to that of ordinary molluscum fibrosum of the skin. Further evidence against the syphilitic nature of the disease was the fact that, in April 1884, the patient contracted an indurated sore on the sheath of the penis, followed by enlargement of the inguinal and cervical glands, roseola, sore throat, mucous patches, and a papulo-tubercular syphilide. M. Reclus proposed again to remove the growths. He also mentions from memory another similar case, as well as two others under the care of M. Trélat, by whom an account of them will shortly be published.

5448. *Keyes on 'Mooted Points in Syphilology.'*—In a paper read before the New York Surgical Society, and published in the *Annals of Surgery*, Dr. E. L. Keyes discusses several interesting points in syphilis, and gives illustrative cases. 1. *Excision of Syphilitic Chancre.*—A medical man came to Dr. Keyes in 1884 with an acuminated papule on the dorsum penis, which had appeared less than twenty-four hours previously, and was ascribed by the patient to suspicious sexual contact a fortnight before. There was no appreciable induration, no glandular enlargement, and the lesion had no pronounced specific characters. The papule, with a full margin of integument, was excised, after cleansing with a strong solution of corrosive sublimate, and injecting a solution of cucaine, which rendered the operation painless. Copious signs of general syphilis appeared in due course. This case is analogous in its history and result to one reported by Dr. R. W. Taylor, in which a papule was excised unsuccessfully on the day of its appearance. Two other cases of failure are mentioned. In one, excision of the initial lesion was performed on the first day, and in the other within twenty-four hours of its appearance. Though Dr. Keyes has not yet met with any case of successful excision, he remarks that it is not difficult to understand how apparent success may follow excision, when the multiple sources of possible error in diagnosis are remembered. These are: (1) inflammatory induration of lesions not syphilitic; (2) the small ulcerated gumma of the penis; (3) non-specific sores which resemble the infecting chancre; (4) cases of delayed syphilis. The first two of these are very common, while the last two are very uncommon. Three cases bearing upon these points are reported. 2. *Mediate Contagion of 'Chancroid.'*—A man noticed an excoriation on the morning after intercourse, and on the third day it was burned by a physician. On the twentieth day, when seen by Dr. Keyes, it had all the appearances of a 'chancroid' with an inflamed base. Five days after exposure the woman had been examined and pronounced sound, except as to leucorrhœa. Dr. Keyes urged further search, which developed the following facts. On the night before Dr. Keyes' patient had cohabited with the woman, she had had intercourse with another man, and had remained partly intoxicated and lying quiet until intercourse took place with the former. The other man was followed up, and was found to have a well-marked 'chancroid' under treatment. He had had this sore at the date of intercourse with the woman. In Dr. Keyes' patient, the sore healed in six weeks. No syphilis followed. The woman did not acquire any sore, nor did the man who habitually lived with her. 3. *The Hutchinsonian Teeth.*—Under this title, Dr. Keyes relates a case 'illustrating the fact that teeth very closely, if not identically, resembling the test-teeth of Hutchinson may be possessed by a patient who has not inherited the disease.' The case was that of a woman, aged 31, who, besides the notched upper median incisors, had a papulo-erythematous syphilide, mucous patches in the mouth, indurated glands, and falling of the hair. She said her husband had a sore on the penis, and had given her a sore on the vulva some weeks previously. There was neither history nor evidence of inherited syphilis. She was robust and well formed, and had had five healthy children. Dr. Keyes concludes his paper with a strong recommendation of milk as a most suitable vehicle for the administration of iodide of potassium, particularly when large quantities of the drug have to be used.

5449. *Hewetson and Others on the Treatment of Syphilitic Keratitis by Syndectomy without Medi-*

cines.—Mr. Hewetson, in a paper read before the Leeds and West Riding Medico-Chirurgical Society, said that, having been much dissatisfied with the tedious progress and frequent relapses of cases of interstitial keratitis, he had had recourse to the old operation of syndectomy, with the object of cutting off the blood-supply from the cornea. He had performed the operation sixty-eight times, and he considered this treatment more satisfactory and rapid than the usual plan, and quite devoid of danger. The cornea was thus protected by a strong cicatricial band against the recurrence of inflammation, and rapidly lost the salmon-tint. Mr. Jessop thought constitutional measures should not be neglected. Mr. Hartley considered that the use of atropine in Mr. Hewetson's cases had had some share in the good result; he recommended syndectomy when the cornea was very vascular or easily irritated.

5450. *Cadell on Urethral Discharge in Secondary Syphilis.*—Dr. Cadell, of Edinburgh, reports the case of a man, aged 35, in whom there occurred a profuse purulent discharge from the urethra about two months from the appearance of the primary sore, and three months after the last sexual connection. The patient had also a papular eruption on the body, and a mucous patch on one tonsil. The discharge rapidly became profuse and purulent, and lasted about six weeks; the patient meantime suffering from night-sweats and great debility. Irritability of the bladder came on after the discharge had lasted three weeks. There was at no time any inflammatory symptom, or redness or swelling of the meatus, or pain in passing urine, or chordee. No mercury was given. Dr. Cadell states that he has occasionally seen in secondary syphilis a slight muco-purulent discharge from mucous patches within the urethra, but never before such a profuse discharge of pus.

5452. *Moore on Gummata of the Liver in a Boy.*—Dr. Norman Moore showed to the Pathological Society a specimen of gummata in the liver of a boy aged 9. He had been under Dr. Gee's care in St. Bartholomew's Hospital for a year and nine months, with enlarged liver and ascites. The liver and spleen could be felt during life. The boy had well-marked 'Hutchinsonian' teeth, but no other signs of syphilis except a sallow skin and extreme cachexia. The liver, kidneys, stomach, intestines, and spleen showed well-marked amyloid change. The liver was very irregular on the surface, and had deep puckered scars in several places. In its substance were several large yellowish tough masses of irregular outline, and each was surrounded by a red zone of engorged liver-substance. Microscopic sections showed these masses to be gummata.

5454. *Silcock and Others on Syphilitic Ulcerative Tracheitis.*—Mr. Quarry Silcock showed at the meeting of the Pathological Society on Dec. 15 the trachea of a man, aged 32. There were numerous ulcers, which began below the vocal cords, and extended into the smallest bronchioles of both lungs. Catarrhal pneumonia led to death. The symptoms were those of chronic bronchitis. There was a gumma in the liver, as well as a history of syphilis contracted in 1877. Dr. Goodhart spoke of a case in which ulceration occurred about the bifurcation of the trachea, and led to perforation. Dr. Percy Kidd had seen syphilitic ulceration of the lower end of the trachea that caused narrowing of both bronchi. Dr. Bristowe remembered a case of extensive ulceration of the bronchi with erosion of the cartilages, which was probably syphilitic. ARTHUR COOPER.

5455. *Neisser on the Treatment of Gonorrhœa.*—The author, in a paper read at Strasburg before the fifty-eighth Congress of Physicists, entitled 'On the Infectiousness of Chronic Gonorrhœa,' advocates as the most reliable and the safest treatment—*i.e.* (1) as destroying with the greatest certainty the gonococci; and (2), as the least irritant method—injections of solutions of nitrate of silver in the proportion of from 1 in 3,000 to 1 in 2,000; and, as second in rank, injections of solutions of 5 per cent. of salicylate of sodium. All other kinds of solutions—*e.g.* of sublimate, carbolic acid, hydrochinon, &c.—are either too irritant, or will not absolutely destroy the gonococci. Boracic acid is altogether devoid of this property. Individual differences of sensibility will of course be met with in the treatment with nitrate of silver, as in any other. Slight irritation may also be caused by these injections, as well as a more copious and purulent secretion. The author, notwithstanding, continues with or without interruptions (according to the condition of the mucous membrane) the injection, and, if necessary, even more energetic remedies, particularly the introduction of easily melting bougie-suppositories, until the gonococci have permanently disappeared, which will not succeed in every case after the first curative attempt. It is erroneous to suppose, the author remarks, that very energetic remedies will most rapidly succeed; a frequent regular application of the least irritant medicament in every case deserves preference, as acting more safely, and on the whole more speedily. The skill of treatment consists in a judicious alternation of the proper remedies, and a discriminating comparison of their effects on the gonococci and the mucous membrane. As soon as the gonococci have permanently disappeared, the further treatment is discontinued in cases without complications. The internal use of balsam of copaiba is not entirely to be discarded; in some cases, it materially assists the local treatment of the urethra. Some of its components, eliminated with the urine, undoubtedly possess properties by which the gonococci are destroyed, and the decomposition of the urine will in a high degree be prevented. The latter certainly is of important advantage during a long-continued application of the catheter, affording a fair chance of counteracting the impending danger of cystitis.

FERD. ADALB. JUNKER, M.D.

5456. *Queirolo on Tumour of the Spleen in Recent Syphilis.*—At the eleventh Congress of the Italian Medical Association, Dr. Queirolo stated that in the Syphilitic Clinic of Genoa he found the spleen enlarged in three-fourths of the cases of syphilis. The enlargement accompanies the general manifestations, especially the rash, and disappears with it. It disappears generally with the glandular affections. General adenopathy may precede the appearance of splenic swelling, or the reverse may be the case. The spleen therefore behaves in the period of the general manifestations of syphilis as it does in other infective diseases. The splenic enlargement is in proportion to the intensity of the general symptoms.

G. D'ARCY ADAMS, M.D.

5457. *Atkinson on the Treatment of Gonorrhœa.*—In the *Practitioner*, February 1886, Dr. F. P. Atkinson contributes a short paper on the treatment of gonorrhœa. In the incubative stage, the author says that, if any injection be used at all, it should consist simply of warm water, or a very weak solution of permanganate of potassium or boric acid. Effervescing citrate of potassium, administered internally, is of great value in lessening the general febrile condition, the pain in passing urine, and also the tendency to orchitis and bubo. The diet should be restricted, and all stimulants, coffee, &c., avoided. In the third stage, when the sense of scalding has passed away, the author orders copaiba, or capsules of oil of sandalwood. If the discharge be not lessened under this treatment, then injections of sulphate of zinc (three grains), sulpho-carbolate of zinc (two grains), or permanganate of potash (one grain to the ounce of water), or Watson Cheyne's bougies, prove of great use. Should this plan not answer, then it is best to inject two or three drops of a solution of nitrate of silver (containing from two to five grains to the ounce) on to the stricture itself by means of Erichsen's liquid caustic catheter. This must be repeated at intervals of from five to seven days, for two or three weeks.

RICHARD NEALE, M.D.

DISEASES OF THE NERVOUS SYSTEM.

RECENT PAPERS.

5458. SCHLEICHER.—Localised Hypnotism. (*Annales de la Société de Méd. d'Anvers*, January 1885.)

5459. LEGRAND DU SAULLE.—Cerebral Complications in Diabetes. (*Ann. Méd.-Psych.*, No. 2, 1885.)

5460. BALL.—A Case of Monomania. (*Ann. Méd.-Psych.*, No. 2, 1885.)

5461. BAILLARGER.—Communicated Insanity. (*Ann. Méd.-Psych.*, No. 2, 1885.)

5462. BAILLARGER.—The Comparative Weight of the Cerebrum and Cerebellum in General Paralysis. (*Annales Méd.-Psych.*, 1886, No. 1.)

5463. Operative Cretinism. (*Annales Méd.-Psych.*, 1886, No. 1.)

5464. MABILLE. — Excessive Secretion of Saliva. (*Annales Médico-Psych.*, Nov. 2, 1885.)

5465. KULESHEVITCH.—On a Case of Epilepsy caused by Ascarides. (*Russkaia Meditzina*, No. 29, 1885, pp. 547-48.)

5466. POPOFF, NIKOLAI M.—On Pseudosystemic Diseases of the Spinal Cord. (*Arkhiv Psikhiatrii, &c.*, vol. v., part 1, pp. 1-22, with 5 figs.)

5467. RUPPERT, H.—A Contribution to the Study of Hæmatomyelia. (*Gazeta Lekarska*, No. 11, 1885; and *Vestnik Klin. i Sudeb. Psikhiatr.*, vol. iii., part 1, p. 329.)

5468. KOVALEVSKY, PROFESSOR J. P.—On Echinococcus Cerebri. (*Arkhiv Psikhiatrii*, &c., vol. iv., part ii.; p. 142.)

5469. POPOFF, NIKOLAI M.—On the Significance of Extreme Depression of Temperature in the Course of Insanity. (*Arkhiv Psikhiatii*, &c., vol. iv., part ii., pp. 1-11.)

5470. MAZZOTTI.—On Opisthoporia. (*Lancet*, September 1885.)

5471. CLARK. — Trephining in Epilepsy. (*Lancet*, February, p. 243.)

5472. WILLIAMSON.—Acute Delirious Mania, complicated with Parotitis. (*Lancet*, March, p. 487.)

5473. ROTHMANN.—A Case of Paresis of the Respiratory Muscles after Diphtheria. (*Deutsche Med. Wochensch.*, No. 52, 1885.)

ART. 5458. *Schleicher on Localised Hypnotism.*—Dr. W. Schleicher, writing in the *Annales de la Société de Méd. d'Anvers*, January 1885, observes that every person who can be hypnotised has a hypnotic character of his own. One maintains his intellectual faculties, there being only a faint diminution of consciousness and loss of sensibility to distinguish his condition from that of ordinary waking; another person shows a complete loss of memory and of volition, and yields readily to suggestions; a third is cataleptic; and a fourth is lethargic, and so on. The most novel part of Dr. Schleicher's communication is his theory of local hypnotism. He affirms that in most hysterical women, and in some men of weak nerves, it is not necessary to cause an alteration of the mental life accompanied by catalepsy or lethargy to produce the peculiar excitability of certain muscles, or loss of feeling in certain parts of the body observable in hypnotism. Dr. Schleicher holds that, through a moderate amount of excitation, continued or repeated in a regular and uniform way, insensibility of the cutaneous region operated upon may be produced, and that this result may be undone by the application of a new excitation of another kind. The organs of the senses may be acted upon in another way. Currents of air made to flow through the nasal passages may produce insensibility to smell; passes over the tongue may produce insensibility of taste. Light blows struck regularly on the mastoid process may produce deafness. Contractions of the muscles may be provoked in certain subjects by mechanical excitation applied to hypnotised regions.

5459. *Legrand du Saulle on Cerebral Complications in Diabetes.*—Dr. Legrand du Saulle (*Annales Médico-Psychologiques*, No. 2, 1885) classifies the different nervous derangements observed in this disease in the following manner. 1. Motor disturbances: muscular enfeeblement and rapid fatigue, various motor paralyses, hemiplegias, paraplegias, paralysis of certain muscles, general or partial convulsions leaving deficient muscular action behind them. 2. Derangements of sensibility: shooting pains (which are somewhat rare), neuralgia in different places often symmetrical, cutaneous hyperæsthesia affecting particular spots, itching, amblyopia, dyschromatopsia; loss of smell, loss of taste, deafness (both rare). These deficiencies may be united and combined in different manners. 3. Vasomotor derangements: scratching the skin causes lines of a deep red, perspiration diminished or increased, stagnation of blood in the extremities, muscular atrophy, gangrene. 4. Cerebral derangements: some are fugitive—headache, vertigo, syncope, attacks of apoplexy (which are sometimes mortal); others are more durable. Occasionally there is noticed a mental apathy, a weakness of volition, which goes on increasing without the patient complaining or noticing anything wrong. Sometimes this cerebral apathy is accompanied by an irresistible tendency to sleep; sometimes, on the other hand, the patient is irritable and quarrelsome. Marchal de Calvi admitted a true diabetic vesania. Dr. Clouston has included diabetic insanity in his classification. Legrand du Saulle observes that he has frequently seen associated with diabetes a hypochondriacal form of melancholia, with ideas of ruin and a tendency to suicide.

5460. *Ball on a Case of Monomania.*—In the *Annales Médico-Psychologiques*, No. 2, 1885, mention is made by Dr. Ball of a man, 37 years of age, whose insanity consists in wishing to be pope. When asked at the age of eight by a bishop what he wished to be, he replied, 'Pope.' This was given to him as a nickname. At the seminary, when 17 years of age, without telling anyone, he considered the reforms which he would undertake when he should be pope. One day at the seminary he spoke of this to his director, and he was refused ordination. Although never ordained amongst the clergy, he did not lose faith in his delusion; and on the accession of Leo XIII. he laid claim to the papacy, and wrote to Rome to contest the election. At length, compromised in a business affair, he was arrested, examined by a physician, and sent to the asylum of St. Anne.

5461. *Baillarger on Communicated Insanity.*—In the *Annales Méd.-Psychol.*, 1885, No. 2, Dr. Baillarger gives several examples of this form of mental infection. Madame X——, a remarkably intelligent woman, having a great influence over her two sons, the eldest of whom was 20 years of age, took it into her head that she was a somnambulist, and that often during the night her husband held consultations with her of which she retained no recollection when awake. She believed that he thus obtained considerable sums, and she repeatedly asked back this money from him. She succeeded in persuading her eldest son of the truth of her accusations, who, after some disputes with his father, went and denounced him to the authorities, when his delusions became apparent. In another instance, writes Dr. Baillarger, I have seen the husband become insane by the influence and effects of the pressure which his wife exercised over him. What is singular, the wife having superior intelligence to her husband, after having deranged his reason by imposing on him the insanity to which she herself was subject, sent him to the asylum of the Bicêtre, while herself remaining at liberty.

5462. *Baillarger on the Weight of the Cerebrum and Cerebellum in General Paralysis.*—Dr. Baillarger has given some statistics bearing upon this matter (*Annales Méd.-Psychol.*, 1886, No. 1). He observes that in general paralysis there are two periods, one of extreme mental excitement, and the other of dementia. If the patient die in the maniacal period, the brain is generally found congested and turgid, and having at least its usual weight. In the period of dementia, on the contrary, there is a greater or lesser degree of atrophy, which is shown by diminution in the weight of the encephalon; but the loss of weight is found not to have affected all parts equally; for, while the cerebrum often loses a fourth of its weight, the cerebellum preserves its volume, and is only found to be lighter by a few grammes.

5463. *Operative Cretinism.*—The observations of the brothers Reverdin, Lombard, Kocher, and Lardy, that the removal of the thyroid gland by surgical operation was followed by a feeble indolent condition, ending in fatuity, have excited the attention of the medical world. The degeneration of the gland, accompaning cretinism and myxœdema, also tended to show that it had some connection with the integrity of the cerebral functions. In the *Chronique* of the *Annales Médico-Psychologiques* (No. 1, 1886) three theories are mentioned about the functions of the thyroid gland, so as to explain this unexpected result following its removal. The first of these theories attributes cretinism to the trouble which the enlarged gland causes to respiration. The second theory supposes that it is the function of the thyroid to regulate the circulation of blood in the brain. In the course of his experiments, Schiff has arrived at the idea that the thyroid gland elaborates some substance which is necessary for the due nutrition of the nervous centres. Whatever theory we may accept, the fact of mental degeneration following extirpation of the glands seems to be now established beyond dispute. Kocher has observed the symptoms of cachexia strumipriva, or operative cretinism as it has been called, in twenty-four cases operated on by him; and he was able to collect most of these unfortunates to be exhibited at a medical society. This presentation of cachectics, we are told, did not fail to make a grave impression upon all who witnessed it. We understand that these unhappy results do not always follow the removal of the gland. It is certainly an embarrassing choice, whether a man is to submit to an operation which is to save his life at the risk of depriving him of the use of his mental faculties.

5464. *Mabille on Excessive Secretion of Saliva.*—Dr. Mabille has a curious series of observations in the *Annales Méd.-Psychol.*, 1885, No. 2, upon inordinate secretion of saliva. The sensory nerves, through which impressions are sent from the salivary glands to the brain, are the trifacial, the glosso-pharyngeal, and the pneumogastric. The nerves which act as dilators ramify from the chorda tympani, while the constrictors come from the grand sympathetic. The salivary excretion may be modified either by mechanical excitation of the nerves or by some mental conditions, such as anger, fear, the memory of some sapid substances. The quantity of saliva produced by the different salivary glands is about 1,500 grammes in the day. In some nervous affections, the patients allow the saliva to accumulate in the mouth without swallowing it, either through complete anæsthesia of the throat and mouth, or through mental obtuseness or inertness, as is observed with cretins and senile dements. The excessive excretion of saliva which sometimes takes place in epilepsy and hysteria is probably owing to excitation transmitted through the chorda tympani and the auriculo-temporal branches of the facial. Cases of ptyalism of an intermittent character are rare. Dr. Mabille met with one in a woman of 60 who was very nervous and hypochondriac. For three years once, twice, and sometimes four times a day a flow of saliva came from her mouth, lasting from half an hour to three hours. Sometimes this extraordinary flow would begin when she was on the public promenade, which distressed her much. At ordinary times the secretion of saliva was normal, nor were any of the other excretions augmented. After unsuccessfully treating his patient with sulphate of atropine, Dr. Mabille gave her the bromide of sodium and ammonium in doses of four grammes a day, and this caused a diminution in the flow of saliva. For the last two months there had been no return of these intermittent attacks, though Dr. Mabille hesitates to say that he regards the cure as complete. W. W. Ireland, M.D.

5465. *Kuleshevitch on a Case of Epilepsy caused by Ascarides.*—In the *Russkaia Meditzina*, No. 19, 1885, p. 547, Dr. Kuleshevitch, of Zaslav-Volynsky, details the case of a delicate and badly nourished Jewish girl, aged 13, who had been suddenly attacked by severe abdominal pain, feeling of oppression within the chest, and dyspnœa, after which, in about twenty-four hours, a series of severe epileptoid fits followed. The convulsive paroxysms could be induced, also, by pressure on the gastric and cæcal regions. Taking the latter circumstance into consideration, and keeping in view the relatives' statement that the girl about a year ago had passed more than sixty round worms, the author gave her santonine with calomel, which drugs shortly expelled about forty ascarides, and thus cured the patient.

5466. *Popoff on Spasmodic Tabes.*—In the *Arkhiv Psikhiatriĭ, &c.*, vol. v., part 1, pp. 1-22, Dr. Nikolai M. Popoff, of St. Petersburg, describes the case of a woman (from the hospital practice of Professor O. A. Tchetchott) who suffered from spastic gait, rigidity of muscles, spasmodic muscular twitchings and contractions, failure of muscular strength, and a considerable increase of tendon-reflexes; in short, the patient presented all the characteristic symptoms of 'spasmodic tabes,' or 'lateral sclerosis,' or 'Erb's spastic paralysis.' However, there were present also paræsthesiæ, occasional shooting pain down the lower limbs, and painful and frequent micturition, phenomena which are usually absent in spasmodic tabes. After six years' suffering, the patient (aged 25) died from exhaustion, caused by chronic pneumonia, bed-sores, and diarrhœa. A careful examination, carried out by Dr. Popoff, detected diffuse sclerosis of the anterior, posterior, and lateral columns, the process attaining its greatest intensity in the thoracic portion, and gradually decreasing upwards and downwards. The lesion was disseminated very irregularly, involving almost exclusively the posterior columns in the cervical cord; spreading also to the lateral and anterior columns in the thoracic part; and being limited almost to the lateral columns in the lower portion. In other words, while the clinical picture corresponded to so-called 'spasmodic tabes,' no true idiopathic lateral sclerosis was found. The author reviews twenty cases of spastic paralysis, in which a necropsy was made (Erb, Bétous, Stofella, R. Schulz (four cases), Aufrecht, A. Strümpell (two cases), Friedenreich, Morgan and Dreschfeld, Weiss (three cases), Hopkins, Mader, Minkovsky, Westphal, N. M. Popoff), and points out that in two of the cases no anatomical changes were found; in two, secondary degeneration of the pyramidal lateral columns was present; in two, disseminated sclerosis in patches; in two, myelitis from pressure; in one, transverse myelitis; in one, circumscribed acute myelitis (?); and in ten, diffuse sclerosis. The general propositions laid down by the author are these. 1. There does not as yet exist a single fact which can support Erb's supposition concerning the anatomical nature of 'spastic paralysis.' 2. The group of symptoms which characterises the clinical picture of 'spastic paralysis' may be met in the course of spinal disease of various kinds. 3. Most frequently, it is seen in cases of diffuse sclerosis.

5467. *Ruppert on a Case of Hæmatomyelia.*—Dr. H. Ruppert, describes (*Gazeta Lekarska*, No. 11, 1885; and *Vestnik Klin. i Sudeb. Psikhiatr.*, vol. iii., part 1, p. 329) a rare case of primary hæmorrhage into the spinal cord, where there were present symptoms simulating transverse myelitis with paralysis of the lower limbs, and anæsthesia of the body up to the fifth rib, and of the upper limbs up to the middle third of the arms. The patient died with symptoms of asphyxia and panplegia. For several hours before death, there was noted a difference between the axillary temperatures, the right axilla showing 38° C., the left 38°·6 C. On the *post mortem* examination, a hæmorrhagic focus, of the size of a hemp-seed, was found in the lower part of the cervical enlargement of the spinal cord, in the anterior portion of the left posterior column, close to the posterior commissure. An acute vascular inflammation was present around the focus.

5468. *Kovalevsky on Echinococcus of the Brain.*—In the *Arkhiv Psikhiatriĭ*, vol. iv., part ii., p. 142, Professor P. J. Kovalevsky, of Kharkov, describes a very rare case of cerebral hydatid. [In upwards of a thousand necropsies performed by the author at the asylum, of which he is superintendent, only once echinococcus of the brain was found, while cysticercus was met in three cases.] A baker, aged 68, was admitted with right-sided hemiplegia (depression of the left side of the face, absolute paralysis of the right upper, and paresis of the corresponding lower extremity, &c.), tremor of the tongue, 'unintelligible speech, consisting of inarticulate sounds,' cyanosis of the right arm and forearm, redness and coolness of the lower third of the limb, increase of tendon-reflexes in the right lower limb, apathy, failure of intellect (he mistook his room and bed for those of other patients, defecated and passed urine everywhere, though his sphincters were healthy, soiled himself with fæces without feeling any discomfort therefrom, &c.), constant headache and giddiness. According to the statements of his relatives, the symptoms began to develop themselves rather abruptly, about four years previously. The patient died about two months after his admission. During the first month, excitement and violent delirium occurred; later on, he began to lose flesh, grow weaker, and fall into soporous state. A cerebral tumour was suspected during his life. At the necropsy, a white leathery cyst, measuring 8·3 by 3 centimètres, and occupying the greatly distended left cerebral ventricle, was found. The sac was filled with clear fluid, giving the reactions of succinic acid, and containing small vesicles which partly floated, partly were attached to the laminated walls of the cyst. These vesicles proved to be heads of cysticercus. The left striated body and optic thalamus were flattened and pressed inwards, occupying the site of the third ventricle, which was nearly absent. The corpus callosum was driven to the right, the corpora quadrigemina backwards; the right lateral and the fourth ventricle, as well as the left side of the pons Varolii, were compressed. No tæniæ were found in the intestines, and no echinococci anywhere else. According to Dr. Kovalevsky, the case above shows—1, that in absence of any other symptoms of helminthiasis, the symptoms of cerebral hydatid cannot be distinguished from those of a common new growth with a chronic course; and 2, that paresis of speech and limbs may depend not only upon destruction of the cerebral centres and nerves, but also upon their mere compression.

5469. *Popoff on the Significance of Low Temperatures in the Insane.*—In the *Arkhiv Psikhiatiĭ*, &c., vol. iv., part ii., p. 1, Dr. Nikolai M. Popoff, house-physician to St. Nicholas Miracle-Worker's Asylum, in St. Petersburg, details the case of a medical man's wife, aged 49, a member of a highly psychopathic family, who was admitted with a fourth severe maniacal attack, and in whom, on the ninth day after admission, a sudden fall of the bodily temperature followed, the thermometer (in the rectum) showing only 34°·3 C. During the tenth day the rectal temperature oscillated between 35°·7 and 37°·3; but then, under the energetic and persistent use of warming-pans, stimulants, friction, &c., it gradually, in the course of eleven days, rose to the standard level (37°·6 C.). There was no collapse in a strict sense of the word; the patient being able to get up, to gesticulate, to talk incessantly; still she was weak. The maniacal attack passed away in about three weeks, and, after two months' stay, she left quite well. The author thinks that the depression of temperature in this case resulted from a disturbance in functions of the cerebral thermic centres. Similar instances of recovery after great depressions of the temperature in the course of mental disease have been reported also by Professors Burckhardt (two cases) and Hasse (one). Pointing to these cases, Dr. Popoff states his belief that this depression cannot be regarded as an absolutely unfavourable sign, either *quoad vitam* or *quoad valetudinem completam* of insane patients. That is, he differs entirely from Löwenhardt, Bekhtereff (*see* his *St. Petersburg Inaugural Dissertation* on 'Clinical Researches on Temperature in Certain Forms of Mental Disease,' 1881), and others, who are inclined to attribute a grave prognostic significance to the symptom under consideration.

V. Idelson, M.D.

5470. *Mazzotti on Opisthoporia.*—In the *Lancet*, September 1885, p. 584, attention is drawn to a rare disease described by Dr. Mazzotti, in a man who presented the phenomenon of going backwards. The man in question was 66 years of age; he was a hard drinker, and for a year before the author saw him he was subject to giddiness. On attempting to walk the patient swayed from side to side, stretched his legs apart like one afraid of losing his balance, and when exhorted to walk he moved with great effort, but stepped backwards. Ultimately he died of ulcerous colitis. On *post mortem* examination, no localised brain-lesion could be distinguished. There was, however, a slight degree of leptomeningitis, and a highly atheromatous condition of the arteries at the base of the brain. [Some valuable experiments, performed by Ott in 1879, are recorded in the *Brit. Med. Jour.*, July 1879, p. 246, vide *Medical Digest*, sect. 1379:4.—*Rep.*]

5471. *Clark on Trephining in Epilepsy.* — In the *Lancet*, February 1886, p. 243, Mr. Henry Clark records the case of a boy, aged 12, who had suffered for five or six months from epileptic fits. The boy was admitted into hospital on Sept. 22, 1883. He had a depressed cicatrix over the right frontal eminence, evidently the consequence of a fractured skull six years previously. During the month of October he had ninety-two fits, and it was decided to try the experiment of trephining over the seat of injury. A crucial incision was made down to the bone, and, the flaps and the periosteum being turned back, a medium-sized trephine was applied, and a disc of bone removed. There was not found to be any spicule or rough edge of bone projecting inwards, and the dura mater was perfectly healthy. The frontal bone was found to be generally thickened at the part where the trephine was applied. The circle of bone removed was replaced after its inner edge had been bevelled off, and a notch was cut on one side to serve as a drain. The wound was then brought together, and dressed antiseptically. The patient did very well, the wound healed by first intention, and during the month following the operation the boy only had thirty-three fits; these were much less severe than those he had before the operation. Two months afterwards he was discharged, the number of attacks becoming less every month, and in September 1885 his mother stated that he was free from fits after leaving the hospital in January 1884 until April 1884. Since then he had had four slight attacks, early in the morning. His mother put them down to indigestion. His general health was very good, and his mental condition was much improved by the operation.

5472. *Williamson on a Case of Acute Delirious Mania, complicated with Parotitis.*—In the *Lancet*, March 1886, p. 487, Dr. J. Williamson records a fatal case of delirious mania complicated with parotitis. The patient was an American lady, aged 40, who was travelling about on account of nervous prostration and insomnia, the result of overwork. For a year she travelled about England, deriving little benefit; and in May 1885 she went to Ventnor, where she consulted Dr. Williamson. On May 12 her catamenia appeared, and brought on increased restlessness and irritability, which was not influenced by bromides or chloral. On May 14 she was confined to her bed, and became very excited. The pulse was rapid, tongue dry, breath offensive, bowels well opened, urine plentiful. Two days later she was deliriously insane. On May 21 she was seen by Dr. Blandford, who ordered paraldehyde, and limited the diet to eggs and milk. For two or three days there was a slight improvement, but on May 24 the left parotid gland commenced to swell rapidly, and in forty-eight hours the right parotid took on the same action. Death took place on May 29. No nourishment could be given either by mouth or by rectum. No suppuration of the parotids took place. The author remarks that this case ranks with those similar affections of the parotid, which have been long known to occur towards the termination of fevers, and ascribes it in this case to an extension of oral inflammation, as the mouth was dry and parched and covered with dead epithelium. This parotid complication, well known in some severe diseases, does not appear to have been much recognised in connection with acute delirious mania.

Richard Neale, M.D.

5473. *Rothmann on Paresis of the Respiratory Muscles after Diphtheria.*—A boy, aged 7, who had recovered from diphtheria, suffered afterwards from paralysis of the velum palati. This appeared to be remedied by the use of iron and nux vomica, accompanied by strengthening diet. But in a month the appetite became impaired, and there was great weakness. A cough set in, but examination of the lungs showed nothing but catarrhal symptoms. The difficulty of expectoration was very great. The heart was quite normal, and the urine free from albumen. Liquor ammoniæ anisatus and sinapisms were ordered, but without any success. The patient was able to swallow with ease. When Dr. Rothmann at length found his patient evidently sinking, he examined the thorax, and found that the upper portion did not move at all, only the lower ribs, showing weak breathing. None of the accessory respiratory muscles performed their functions. All the little patient could do to help his breathing was to strike the upper part of the abdomen with his clenched fists, for even the abdominal muscles were inert. The nature and seat of the disease were evident, as well as the imminent danger. Speedy and energetic treatment being thus demanded, Dr. Rothmann determined on the use of strychnine and electricity. One milligramme of strychnine was injected under the skin, and shortly afterwards the induction-current was applied, especially to the phrenic nerves, but also to the abdominal muscles. This treatment was repeated twice a day for some time, nourishing diet being given. A remarkably speedy effect ensued, the symptoms rapidly disappearing. After 2 centigrammes of strychnine had been injected and the induction-current applied twenty times, the boy could be pronounced out of danger, and the treatment confined to strengthening diet. Dr. Rothmann points to the fact of paresis of the respiratory muscles being of infrequent occurrence, compared with paralysis of other parts after diphtheria. This is the only case he has had in an experience of twenty-five years. Jacobi, in Gerhardt's *Handbook of Children's Diseases*, adduces a case to show that paresis of the respiratory muscles may occur without previous paralysis of the velum palati. If the disease be of infrequent occurrence, recovery from it is also rare. Though Oertel condemns the use of strychnine, Dr. Rothmann would, if he had another similar case to deal with, use both electricity and strychnine contemporaneously. And he would proceed to the use of them at once on appearance of difficulty of expectoration, for which no cause but paresis of the respiratory muscles could be assigned.

JOHN ELLIOTT.

REVIEWS.

ARTICLE 5474.

A Manual of Midwifery. By ALFRED LEWIS GALABIN, M.A., M.D., F.R.C.P.Lond., Obstetric Physician and Lecturer on Midwifery and the Diseases of Women to Guy's Hospital, &c. London: J. & A. Churchill. 1886.

THE author tells us, in his preface, that the object in writing the present work has been to produce a book which should be literally a manual in point of size, and yet should include all that is likely to be required by students or practitioners.

On most practical subjects, the teaching of this book will be found to agree with that generally adopted by British authorities. On a few points, he has ventured to give recommendations differing from the opinion of the majority. Among these may be mentioned especially the choice of leg to seize in version for shoulder-presentation: the application of a noose to the prolapsed arm; the use of a serrated hook for decapitation; the use of the vectis in protracted labour with an unreduced occipito-posterior position of the vertex; and the use, under very exceptionable circumstances only, of an oscillatory movement in extracting with forceps, which is by most authors either recommended as a general rule, or altogether denounced.

On some theoretical points, the mode of explanation will be found to be original. Among these are the mode of demonstrating how flexion of the fœtal head is produced by the pressure of the girdle of contact; the account of the opposite modes, as regards flexion and extension, in which the fœtal head may pass the brim of a flattened pelvis; the proof that correct axis-traction may be exercised by ordinary long curved forceps; the account of the leverage action of forceps; and the explanation of the lateral obliquity of the fœtal head.

In the account of the mechanism of labour, both in the normal and in the flattened pelvis, the author has endeavoured to make the description of the subsidiary movements of the fœtal head and their causation as simple as possible, and, at the same time, mechanically and geometrically sound. He explains that the pelvis is so shaped, that it corresponds in a degree to a female screw. The largest diameter gradually changes from a transverse to an antero-posterior direction, as it is traced from above downwards. When the head reaches the floor of the pelvis it meets an inclined plane sloping forwards, formed, first, by the lower part of the sacrum; secondly, by the coccyx, with the muscles attached to it; thirdly, by the soft parts between the coccyx and the anus, together with the recto-vaginal septum, which lies flattened against them; and, finally, by the perineal body. This chapter, occupying thirty pages, deals with the whole question in a most scientific manner, and will unquestionably conduce to a clear understanding of the subject. Forming, as it does, the very keystone of successful practice, the student will do well to master thoroughly the mechanism of labour. It is essentially one of those mathematical problems that the author delights to reason out; and, we need hardly say, he has done it thoroughly.

In place of tying the funis immediately after the birth of the child, or as soon as it cries or breathes freely, Budin's experiments show that the opposite practice is desirable—viz., to wait until pulsation ceases naturally, generally four or five minutes, and not cut the funis until about a minute after this. By this arrangement some extra three ounces of blood are transferred from the placenta to the child, partly from the thoracic aspiration during inspiration, partly from the effect of the pressure of the uterus on the placenta. To tie the funis immediately is equivalent to bleeding the child to the amount of three ounces, a bleeding which would correspond to one of about sixty ounces in an adult. The author endorses Budin's views regarding the extra amount of blood as an advantage to the child, especially as it gains very little nourishment from its mother during the first two days.

In speaking of eclampsia, the author advises the administration of an active purgative as the first indication. This lowers arterial tension without weakening so much as venesection; it may possibly carry off some poisonous material from the blood through the bowel, and it may sometimes remove one of the sources of reflex irritation in the shape of an accumulation in the bowels.

Venesection, although tending to check the convulsions, should generally be reserved for a last resort, in cases in which all other means fail to arrest the convulsions. The administration of chloroform is the most valuable remedy of all. It has a great influence in preventing the recurrence of the fits, and it allows any necessary manipulations to be carried out without the probability of exciting a paroxysm. Next to chloroform, the most valuable drugs are chloral, bromide of potassium, morphine, administered subcutaneously, and pilocarpine.

In discussing the choice between the high forcep operation and version in the flattened pelvis, the author lays stress upon the two great advantages o forceps: first, a much greater force can be used than can be applied to the neck without risk of injuring the spinal cord; and, secondly, the extraction may be made gradually, while the extraction of an after-coming head must be effected in a minute or two if the child is to be saved. The comparative advantages of version are these. 1. The head naturall adapts itself to the pelvis in that position in which can find most room. 2. The head forms a muc more tapering wedge when it enters the brim by the base first, than when it enters it with the summit first.

The advantages and disadvantages of Tarnier's forceps are fully considered. The great advantage of the instrument is that it allows perfect axis-traction, but it has the following drawbacks. It is more complicated and difficult to adjust than ordinary forceps; the hinge at the blade is difficult to keep perfectly clean. The compression of the head with a screw is also a disadvantage; the thickness of the blades also takes up much room in the pelvis. The so-called 'indicating needle' appears to be a delusion.

The chapter upon puerperal fevers, occupying over forty pages, enters fully into the subject. The modern view is, that the affections which have been included under the title of puerperal fever or metria, are analogous to the febrile disturbances which may follow surgical wounds, and are due, for the most part, to absorption at some surface, either that of the placental separation, or at lacerations of the cervix, vagina, perinæum, or vulva. That puerperal fever, in its severe forms, is a highly contagious disease, there can be no doubt. The results obtained in the report on puerperal pyrexia, made by the author for the Collective Investigation Committee of the British Medical Association, are included in this chapter, and appear to afford more positive statistical evidence than had before been produced in favour of the views commonly held in Britain as to the relation between zymotic diseases especially scarlatina, and puerperal fever.

After a careful perusal of the book we can conscientiously say that the author has succeeded thoroughly in producing a manual including all that is likely to be required by students and practitioners. It is well illustrated, 227 figures being given, clearly executed, and just such as are requisite for the elucidation of the text. ARTHUR W. EDIS, M.D.

ARTICLE 5475.

Clinical Lectures on the Diseases of Women, delivered in Saint Bartholomew's Hospital. By J. MATTHEWS DUNCAN, M.D., LL.D., F.R.S. L. and E. Third Edition. Much enlarged, with Appendices. London: J. & A. Churchill.

DR. MATTHEWS DUNCAN is an authority of high repute, and a clinical teacher of deserved popularity. His lectures are exceedingly readable, the sentences are short, and their meaning is always clear. It is ever difficult for those who can only compose long sentences—that is to say, those who have but a limited knowledge of literary composition—to make themselves clearly understood. Yet this disadvantage entails something yet more serious. It conceals errors as well as truths. No reader can fail to understand what Dr. Duncan means. Hence his brief yet expressive assertions read like proverbs to his followers, but his opponents can detect at a glance what they believe to be fallacious. He tells his audience that, together with Dr. Godson, he sought, during a whole winter, for a case of endometritis in the out-patient department of St. Bartholomew's. The result was, 'we got not one.' Such expressions as 'you are not to expect it' are frequent. The chief cure for chronic pelvic inflammations is 'lying abed.' Pessaries are 'contorted bits of wood and metal and vulcanite,' but 'if your patient gets real relief from any kind of pessary that does not do important harm, let her have that relief.' Dr. Duncan's style is most commendable, whatever may be the truth of his sayings. His choice of technical terms is less happy. He coins some curious words compounded of English and Latin, such as 'sacrache,' for pain in the sacrum. He describes most graphically the symptoms of pelvic cellulitis and pelvic peritonitis. He reminds his pupils that the two diseases must never be confounded. Yet at the same time he applies to these diseases the confusing terms parametritis and perimetritis. On the other hand, certain pedantic expressions, familiar in other works, are absent from Dr. Duncan's *Lectures*.

This edition contains thirty lectures not to be found in the first issue, as well as some new matter in the appendices. What is, perhaps, yet more satisfactory, it possesses a good index, prepared by Dr. W. S. A. Griffith. It is dedicated to Dr. Clifford Allbutt, and in the preface the author regrets that he has not as yet delivered a lecture on the neurotic diseases of women. We must add that little or nothing is to be found about diseases of the Fallopian tube, even in relation to pelvic peritonitis, with which affection they are often intimately connected, sometimes as the cause, at others as the effect.

The older lectures must be well known to the medical public. Some of the additions are of great interest. For obvious reasons, a relatively high value cannot be put upon the lectures on ovarian and uterine tumours, but the author is exceedingly just and temperate in his remarks on those who really take the responsibility of operating. It need hardly be said that the passages on diagnosis and purely clinical matters are throughout of the highest excellence. In any gynæcological question which bears more or less directly upon obstetrics, the author displays himself as though in his own element. It is, therefore, in the lectures upon such questions that he speaks in his best style. Those lectures will necessarily be the most valuable to the profession, and the most instructive to the student.

The lecture upon Endometritis impresses upon the student the vague nature of the term. Dr. Duncan is careful on the one hand to exclude inflammatory disorders of the cervix, and, on the other to admit that there is really such a disease as endometritis. He applies the term to inflammation of a part or the whole of the corporeal endometrium. We regret that he does not enter deeply into the relations of the endometrium to menstruation. He does not tell us if he really believes that the endometrium is shed in whole or in part at every period. We are not told that, if such be the case, there may be such a thing as a retained portion of endometrium, homologous to a retained piece of placenta. If it were proved that this can happen, a missing link in uterine pathology would be found. Dr. Duncan however, seldom cares to speak of unsettled questions before his pupils, and in this respect he follows the best principles of a good teacher. He admits the decidual endometritis of pregnancy, the sloughing or diphtheritic endometritis of the puerperal state seen in necropsies, and the endometritis produced by retained placenta. The lecturer believes strongly in the endometritis of elderly women, sometimes mistaken for cancer. The pseudo-menstruation of fever and rheumatism is known, according to the author, to be endometritis; for, after death in such cases, the mucous membrane is found in a catarrhal condition. He admits that the disease is not rare in connection with uterine fibroids, and states that membranous dysmenorrhœa is generally supposed to be the result of inflammation of the menstrual membrane—menstrual endometritis. Fungous endometritis is described as a non-inflammatory disease, a general myxomatous hypertrophy of the uterine mucous membrane. Dr. Duncan has little belief in scraping as a permanently curative remedy.

In a lecture 'On Retention of Menses,' Dr. Duncan states that this condition is generally caused by atresia of the vagina in its more or less complete form, and not by imperforate hymen. The apparently closed hymen is, he believes, the distended and expanded fossa navicularis, or mucous membrane between the posterior margin of the hymen and the fourchette. The hymen, not imperforate, is to be found in its usual situation. Dr. Duncan states that he has met 'with only one case, not congenital, where menses were retained by closure of the internal or external os uteri—hæmatometra.' This sentence appears to imply that the one case was not congenital, not that the lecturer had met with other cases that were congenital.

In the same chapter, Dr. Duncan speaks with disapproval of operations for making 'a new piece of vagina.' He observes that it is not to be doubted that it is inexpedient that a gravely malformed woman should continue the species, and it is imprudent to aid and abet this course. This assertion is somewhat obscure. It seems to signify that a woman with absence of part of the vaginal canal is likely or certain to bear children subject to the same abnormality, if she be impregnated after a successful plastic operation for the restoration of the closed part of the vagina. The fear of that contingency must be indeed remote. Of the unsatisfactory nature of plastic operations on malformed vaginæ there can be no doubt, and Dr. Duncan rightly indicates this fact to his pupils.

The lecture on 'Amenorrhœa and Vicarious Menstruation' is one of those excellent clinical discourses which Dr. Duncan knows so well how to prepare and how to deliver. It is just because there are so many lectures like this particular example in Dr. Duncan's work, that it should be found in the library of every practitioner. The author's views on the non-existence of vicarious menstruation may be controverted, yet no opponent can doubt that he shows how slow we should be to apply the expression to every case of hæmoptysis or epistaxis complicated with amenorrhœa.

The lectures on 'Lupus' of the Pudendum and on Pelvic Cellulitis and Peritonitis need little or no comment here, since the lecturer's views on lupus have recently been made known, and his opinions upon pelvic inflammations have been widely quoted since the appearance of his standard monograph on the subject. Of all the lectures, that 'On Minor Displacements' is the most characteristic of the author. He declares that an uncomplicated displacement is often a condition of equilibrium of a woman's pelvic viscera, and therefore a constituent part of her comfort and health.

This relation of alterations of position in the female organs to the retentive mechanism of the abdominal walls is an interesting subject, on which Dr. Duncan himself has thrown much light. His pupils might profitably take the opportunity of yet further extending their knowledge in this direction by consulting Landau's valuable works on floating kidney, displaced liver, and pendulous abdomen, and by reading the views of Drs. Berry, Hart, and Barbour on the mechanical supports of the pelvic viscera anterior to the rectum.

In conclusion, it must be noted that Dr. Duncan expresses regret in the preface to this edition that the lectures are far from complete. This announcement is satisfactory, for it indicates that we may expect another issue. The first edition was translated into several foreign languages, the second and third have still further increased their author's reputation. The profession may yet have the advantage of seeing a fourth, which will or ought to contain a lecture on the neurotic diseases of women, a second on the changes of the endometrium during menstruation in health and disease, and a third on the signification of the large number of suppurating Fallopian tubes which have been diagnosed, removed, and exhibited at societies in profusion during the past five years. ALBAN DORAN.

ARTICLE 5476.

On the Suprapubic Operation of Opening the Bladder for Stone and for Tumour. By SIR HENRY THOMPSON, F.R.C.S. London: Churchill. 1886.

SIR HENRY THOMPSON has lately been so identified with the perineal operation for the exploration of the bladder, that it is with considerable pleasure we find him testing and approving what may be looked upon as almost a rival operation. It raises the already high reputation of the author as an honest observer, and is in marked contrast with the special pleading of the main advocates of the suprapubic operation who condemn the perineal section for the removal of tumours from the bladder, and yet have had little or no experience of the operation (*vide* LONDON MEDICAL RECORD, April 1885).

In the recently issued essay by Sir Henry Thompson, we find the arguments in favour of the high operation stated in the clear and masterly manner for which the author is justly reputed; and, after recognising the immense gain to practical surgery resulting from Dr. Garson's observations upon the effect of rectal distension upon the position and relation of the pelvic viscera, he seizes upon this important assistance to the safety of the operation. He gives due credit to Petersen of Kiel for having been the first to see and act upon this method of Garson's, by which the high operation, formerly associated with considerable risk, has now been rendered almost absolutely safe as regards injury to the peritoneum. And he claims, as an important improvement, his practice of limiting the use of the knife to the skin and fibrous layers, and of employing the finger-nail or an ivory separator to divide other tissues and draw aside the veins, thus avoiding the risk of serious hæmorrhage.

Lithotrity, no doubt, is still the operation most useful in nine cases out of ten—lithotrity especially at a single sitting, for adult patients; and it may be generally allowed that neither stricture nor enlarged prostate, nor disease of the kidneys, forbids the crushing operation. But there are some calculi too large and too hard for that operation. That these stones are allowed to grow to the size they sometimes assume is someone's fault, generally the patient's, and not the surgeon's; and Sir H. Thompson mentions the case of a patient from whom he removed a stone weighing no less than six and a half ounces, by means of the suprapubic operation, and this patient had come to him sixteen years before and refused to have a small stone crushed. The important question which he now considers is—What is the best proceeding to employ as a supplement to lithotrity for those unusually large stones for which that operation is inadequate? The answer to this is, that the high operation with the modifications due to Dr. Garson's observations is the operation to be preferred; and he adds, 'I will go further, and will add, that it is my belief that in the hands of most operating surgeons this proceeding will prove a safer and far easier one than lithotrity, with all its advantages, for hard stones when they have arrived at about one and a half to two ounces in weight.' This accords with the views expressed by some American surgeons at a discussion on the suprapubic operation, reported in the *Transactions of the American Chirurgical Association*, vol. ii. (LONDON MEDICAL RECORD, June 1885).

The dangers of the operation recognised are the chance of injuring the peritoneum, and the possible occurrence of urinary infiltration and its effects in the cellular tissue around the bladder. The first, which is unquestionably the chief risk, is met by distension of the rectum; and the author gives two woodcuts from Dr. Garson's paper, which show the great rise of the bladder above the pubes when the rectum and bladder have been distended. The second he hardly looks upon as a real danger, nor does it often occur after lithotomy. In fact, he does not take any special antiseptic precautions, only follows scrupulous cleanliness, and he has not met with anything to alter the views he has already expressed on the subject.

The operation is of course performed after due care in emptying the rectum; and, as soon as anæsthesia is produced, an empty India-rubber bag is passed, rolled up and greased, into the rectum, and then distended with twelve to fourteen ounces of water. The bladder is next very gently distended with about six or eight ounces, according to the degree of resistance and the eminence observed above the pubes. The catheter is withdrawn, and the base of the penis is firmly ligatured with an India-rubber tube. The incision made is about three inches long, and overlaps the symphysis. The deeper parts are carefully divided on a director, but the finger-nail is especially used, as the venous bleeding is sometimes very troublesome. The bladder is hooked up, and only sufficient opening made to admit the finger, which will then be used for the purpose of dilating the opening; and now the two index-fingers are used as blades for the extraction of the stone. When the operation has been performed for the removal of a tumour, a loop of stout silk passed through each margin of the vesical opening, and held up by an assistant on each side, allows easy access to the bladder; and this may be facilitated by letting some of the liquid issue from the rectal bag. The open wound will give issue to the urine; but no harm follows from this, and there is no necessity to put any sutures into the bladder, and even the abdominal wound usually does not require closing; but a large India-rubber tube is left in for twenty-four or forty-eight hours to ensure a free opening in case of hæmorrhage, and sometimes also a soft full-sized catheter is left for a time in the urethra. The patient lies on his back during the first twenty-four hours, and then on each side alternately for six hours at a time, and all the urine runs easily in this way from the wound. In the case of the female, inasmuch as the bladder cannot be permanently distended like that of the male, a special form of sound, with a grooved extremity and a bulbous stilet, is recommended, and this can be cut upon when the bladder is reached.

Sir Henry Thompson admits that large and compound tumours are more safely and efficiently dealt with by the modified suprapubic operation than by the perineal. The high operation permits a somewhat more extended use of the sense of touch, and also adds the ability to see to a limited extent, and cautery and local styptics may also be used more effectively.

Eight cases are narrated. The first occurred in July 1883, and, by the suprapubic operation, a stone weighing nearly three ounces, and composed of cystine, was removed successfully. The second patient was a lad aged 12, and the stone weighed one and a half ounces. The third was a man aged 73, and the stone was one and a half ounces. The fourth was an enormous calculus of uric acid, weighing fourteen ounces, in a man aged 62. All these recovered. The fifth was the only fatal case, and the patient was 70 years of age, and very infirm, and the stone weighed nearly two ounces; he died apparently from asthenia. The sixth case was a gentleman aged 76, and the stone weighed six and a half ounces. The seventh patient was a lady, aged 73, and the disease a large papilloma of the bladder. The eighth operation was also for a large papillomatous tumour; and this, in a gentleman aged 55, was also successfully removed. W. W. WAGSTAFFE.

ARTICLE 5477.

Surgical Handicraft. By WALTER PYE, F.R.C.S. Second edition. London: Henry Kimpton. 1885.

A NEW edition of this practical work, in so short a time after the first edition, is strong evidence of its appreciation by the public, and is a source of congratulation to the author. It was reviewed in the LONDON MEDICAL RECORD (November 1884), and certain suggestions made in that review have been acted upon with, we think, manifest advantage to the work. One of the plates has been altered with some success, the directions for the treatment of umbilical hernia in children have been modified, a full account has been introduced of Howard's direct method of resuscitation from drowning, a description of the otoscope and how to use it has been added, and a chapter on case-taking has been added. In addition to these, the author has rewritten the account of the fitting of trusses, and much of the chapters on Listerian dressings, and has also added to some of the other chapters. Another appendix is also given on the preparation of patients for operation, and on the making of poultices, water-dressings, and similar useful work. We still think that in such a manual an appendix might contain some directions for the student or house-surgeon on the making of *post mortem* examinations, and we should have been glad to see one of the chapters devoted to the use of the ophthalmoscope. We feel, too, that more stress might with advantage be laid, in the directions on case-taking, to the value of rough sketching as a help to description.

But the author has materially added to the usefulness of the book by slightly reducing its bulk, and yet, by using a rather more condensed type, has been enabled to put more material into a smaller compass. The time which has elapsed since the first edition is too short to have been attended by any startling novelties in surgery, but Mr. Pye has made judicious use of recent additions to surgical literature, and the *Manual of Surgical Handicraft* is likely to prove an useful and popular addition to the student's library. The present edition is an advance upon the original one, and that is speaking very highly in its favour. - W. W. WAGSTAFFE.

ARTICLE 5478.

Investigations into Some Morbid Cardiac Conditions. By W. RUSSELL. Pp. 148. Bell and Bradfute.

THIS book, which is the expansion of a doctorial thesis at Edinburgh, and of an essay which received the Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons of New York, is mainly occupied with the discussion of basic murmurs.

After an excellent summary of the work of previous authors, the sequence of phenomena observed in states of cardiac debility is stated as follows.

'First, accentuation of the pulmonary second sound, with perhaps a systolic impurity, in the second left space; second, a systolic murmur in the second left space; third, murmur in the third and fourth left spaces, in addition to the second space; fourth, murmur from about the nipple line inwards over a triangular area, the left boundary of which is formed by a line drawn from below the nipple to a point in the second left space from one to two inches to the left of the sternum, and often heard at the same time over the sternum adjoining this area; fifth, murmur in the second right space (aortic area); sixth, murmur in the third and perhaps the fourth right space; seventh, murmur over the manubrium sterni; eighth, murmur beyond the apex towards the axilla.'

The author states that, in thin people, pulsation first appears at the root of the neck, then to the left of the sternum in the second, third, fourth, and perhaps fifth spaces, or in any of them; more commonly, although not invariably, absent from the upper than the lower of these, should it be from any. Epigastric pulsation is only present when there is a high degree of enlargement of the right side. Attention is drawn to the fact that the murmur is often grating in character, and may only be audible in the recumbent position, while it often ceases with inspiration, to reappear during expiration. It is insisted that, when there is pulsation immediately to the left of the sternum, it is due to the pulmonary artery and right ventricle, and not to the right auricle. This is, in fact, the view of all anatomists, while no pathological evidence, as he points out, has ever been adduced, that the left auricle can cause pulsation in the second left space.

General experience, however, is hardly in accordance with the author's views, that in anæmia pulsation is more common in the upper than in the lower spaces, while it is certainly not so common as epigastric pulsation. So far from this latter implying extreme dilatation, it may in most people be readily produced by deep inspirations, which accelerate the venous circulation slightly, while no pulsation is produced in the second left space.

The author considers that the systolic bruit audible over the second left space is pulmonary, and is caused by the compression of the artery, which is stretched over the distended left auricle. The blood, flowing through this constricted orifice into the wider uncompressed vessel beyond, is thrown into vibration, which is audible. When the bruit is audible over the third, fourth, and fifth left spaces or to the right of the sternum in the second space, it is due, he considers, to tricuspid regurgitation transmitted through the right ventricle and auricle. In other words, the basic murmur of anæmia is due to tricuspid regurgitation.

In assuming that the pulmonary artery may be compressed, the author appears to have entirely overlooked the fact, that during the ventricular systole, when the blood is being forced through the pulmonary artery and the bruit produced, the pressure in the artery is at its maximum, and that in the auricle at its minimum; the former being the greater of the two, as is shown by the blood flowing into the auricle.

It is, therefore, impossible that the pulmonary artery can be compressed over the auricle during the ventricular systole, and consequently this explanation of the bruit falls to the ground. Again, no sufficient evidence is adduced to prove that when the bruit is audible over the wider area it is due to tricuspid regurgitation, while the usual absence of all the other classical symptoms of tricuspid regurgitation, in cases with anæmic basic bruits, precludes our considering it as the solution of the problem.

It is extremely improbable that a bruit audible over the right auricular appendix should be due to tricuspid regurgitation, as this is not audible when regurgitation is undoubtedly present; and mitral bruits are not conducted by the left auricular appendix.

The essay is a valuable contribution to a difficult question, which however it cannot be held to have solved.

The last chapter deals with vegetative endocarditis, the leading symptoms of which the author considers to be pyrexia, a rapid pulse, readily increased by slight excitement, together with cardiac symptoms. Several typical cases are related in illustration. G. N. PITT, M.D.

ARTICLE 5479.

The Management of Labour and of the Lying-in Period. By HENRY G. LANDIS, A.M., M.D., Professor of Obstetrics and Diseases of Women in Starling Medical College. Griffin & Co. 1886.

THE aim of the book is to serve as a guide to practice, divested of all superfluous or irrelevant details.

The author tells us he is confident that we may take six hours as representing the maximum limit of normal labour—the truly ideal labour being an affair of but two or three hours at most.

His remarks as to the management of simple labour are eminently practical, and just such as the practitioner needs. He endorses Smellie's views as to avoiding rupture of the perinæum by pressing the head through the vulva by means of the fingers in the rectum, in place of attempting to retard the delivery of the head by pressure with the hand. In other cases, by pressing the ball of the thumb upon one of the nates, the fingers, reaching across, pull the skin of the opposite buttock towards the median line. In this way we may crowd skin and cellular tissue into the perineal space, and thus afford a more distensible surface. In cases where, spite of all our care, the perinæum becomes ruptured, the author advocates immediate repair, as it diminishes the risk of septicæmia.

The remarks upon uterine inertia should be read by every practitioner. The various causes, and methods of dealing with them, are given in detail. Dr. Landis regards ergot as the most uncertain drug in the *Pharmacopœia.* Quinine, however, meets with his approval.

Chloroform during labour he considers hazardous for the child, as it passes freely into the fœtal circulation when inhaled by the mother. It protracts labour, increases the risk of *post partum* hæmorrhage; and, from the imperfect contraction of the uterus after delivery the danger of thrombosis, septicæmia, and all the diseases of the puerperal period, is also increased.

The description of the management of breech-presentations is clear and explicit, due stress being laid upon the importance of suprapubic pressure, so as to expedite the delivery of the after-coming head.

In speaking of placenta prævia, the author endorses Barnes's method of partial separation of the placenta for about three inches around the os uteri, thus allowing the cervix to dilate. The plan of detaching the placenta from the side to which it is least attached is not insisted upon as it should be, and we doubt the advisability of leaving tampons in for several days, even if they have been dusted over with iodoform. As to 'the internal use of hæmostatic drugs, such as gallic and sulphuric acids, and the like being permissible as having a soothing effect on the patient and physician,' we quite agree with the author that 'but little good is likely to result, especially if they are relied on.' For *post partum* hæmorrhage the author relies upon 'a clean handkerchief soaked in vinegar, or a lemon with the rind removed,' passed into the cavity of the uterus; failing these, the injection of hot water or tincture of iodine. The majority of practitioners, we think, will hardly agree with the author that 'the general testimony is so full as to the want of action of ergot, that I should earnestly dissuade anyone from relying on it.' Elevating the foot of the bed, pressure upon the abdominal aorta, bandaging the extremities, and other like expedients are enumerated; but preference is given to the administration of hot milk or even hot water.

In the treatment of puerperal eclampsia, the author recommends in the first place venesection. Next to blood-letting comes chloral, combined with bromide of potassium. Chloroform may be inhaled, if there be delay in procuring the former drugs. Hypodermic injection of morphia is objected to, as calculated to obtund the sensibility of the nerve-centres. Purgation with calomel in ten-grain doses, the hot pack to cause free diaphoresis to aid in elimination, and other similar means, are given. With all due deference to the author, we venture to suggest a slight variation in the order in which the remedies are employed. Chloroform is usually at hand, and should at once be given; then either chloral and bromide *per rectum*, or morphine hypodermically. If the convulsions be very severe, and the patient very plethoric, venesection may then be employed, but not in every case. Purgation with calomel or croton-oil, diaphoresis, and other such expedients, may then be resorted to.

The description of the application of forceps is practical. He discourages the side to side swaying motion—the pendulum leverage, as it has been called, and thinks 'as a rule anæsthetics should not be administered.' Tarnier's forceps is mentioned, but 'its great expense will prevent it from ever coming into competition with other forceps.'

When speaking of the Cæsarian section, he refers to Porro's operation as having been performed with great success at first, but of late with no more, or only as much, as attends simple gastro-hysterotomy. This is scarcely in accordance with the statistics collected by Dr. Godson,* who shows that out of 152 operations there have been 66 recoveries and 86 deaths, giving a mortality of 56·6 per cent., whereas cases of Cæsarian section show a mortality of 83 per cent.

Sufficient illustrations of the author's views have been given, to enable the reader to form an idea of the teaching inculcated. The author is evidently master of his subject, and may be congratulated on having written a work that will prove of value, if not as a complete manual, at least as a safe guide to practice. ARTHUR W. EDIS, M.D.

ARTICLE 5480.

Handbook of the Diseases of the Nervous System. By JAMES ROSS, M.D., LL.D., Senior Assistant-Physician to the Manchester Infirmary. 8vo., pp. xx.–723, with 184 illustrations. London: Churchill. 1885.

THIS handbook is the best work of its kind with which we are acquainted. It consists, to a large extent, of a reduction and condensation of the author's larger treatise, which had already achieved a brilliant success, and placed Dr. Ross in the foremost rank among writers on the subject of neuropathology.

It is obvious that we cannot attribute finality to any of our present views concerning any one aspect, far less to the whole, of neurology. Still it is necessary to the progress of science that hypotheses reflecting the sum total of our knowledge at any particular period should be formulated, and should give a general tone to thought and research. Dr. Ross obviously feels this need; and throughout his work, though more especially in the introductory chapters, he takes his standpoint upon the evolutional hypotheses of Herbert Spencer. The question arises, however, as to the capacity of 'students and practitioners,' to grasp the principles involved without far ampler explanations than can be given in an elementary handbook. We confess ourselves unable, for instance, to see why the cerebellum is an organ for co-ordination in 'space,' whilst the cerebrum is one for co-ordination in 'time,' from the bare statement that the first presides over 'tonic,' the second over 'clonic' contractions. The element of space is surely common to all muscular phenomena, and the only difference here is one of distribution in time. We should prefer to the enunciation of formulæ to have full definitions and illustrations of such terms as diffusion, inhibition, co-ordination, and the like, which though constantly used, do not in many minds represent adequate ideas. Another word sadly wanting vigorous definition is that of 'centre.' No one better than Dr. Ross could warn the reader against the pseudo-physiological absurdity indulged in by those clinical observers, who are ever ready to assume disturbance of a 'centre' when asked to account for a symptom.

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* *Brit. Med. Jour.*, Jan. 17, 1885.

How few realise the difference between 'mechanism' and 'centre!' We have heard of a gentleman who defined locomotor ataxy as a disturbance of the 'centre of gravity.' *Si non vero, e ben' trovato*, and the story has a moral.

Though we started with the declaration that the present is the best handbook we know, we do not pretend—and Dr. Ross less than any one else would believe us if we did so—that some improvements are, in our judgment, impossible. In view of the second edition which is sure speedily to follow, we should like the author to consider the advisability of introducing some general remarks on the etiology of nervous diseases; and on the methods of investigation. Some considerations on general paralysis would be welcome to many readers. The designation of 'deep reflexes' ought decidedly to be given up. The term 'tendon-reactions' sufficiently covers everything included therein; for the 'periosteal' and 'fascial' reflexes are mere varieties of the group. Percussion of the tibia or radius does not call forth any contraction, if the bone be supported so as not to transmit an extensile impulse to any tendon; and there is no proof that in other instances the contraction is not directly produced by the vibration imparted to hypertonic muscle. A few remarks concerning the phenomena of fibrillary and idiomuscular contractions would be useful. The volume is most handsomely got up. But why did the printers after page xx. start with page 16? The usual term 'erythromelalgia' is converted into 'erythemomegalalgia,' through what appears a slip of the author's pen, rather than calculation on his part.

We hope that all those who were prevented by its magnitude from reading Dr. Ross's previous work, will lose no time in availing themselves of the opportunity now given them of studying this masterly summary of neuro-pathology.

A. de Watteville, M.D.

Article 5481.

Coca, Cocaine, and its Salts: their History, Medical and Economic Uses, and Medicinal Preparations. By William Martindale, F.C.S. London: H. K. Lewis. 1886.

The author states in his preface that he has been induced to compile this treatise, as supplementary to the short description of cuca given by him and his co-editor in the *Extra Pharmacopœia*, on account of the attention this plant and its alkaloid cucaine, have excited during the past eighteen months. He has carried out his intention in an excellent manner, and in these pages presents to the reader an interesting summary of the rapidly accumulating literature upon the subject of cuca and cucaine which will be found to be well up to date, besides much original valuable information upon the pharmaceutical branch of the subject. He cites large quotations from writers, ranging from the sixteenth century to the present day, most of whom have been travellers in Peru, Bolivia, and adjacent territories of South America. These authors describe the 'so-called nutritive properties, or rather the hunger- and thirst-appeasing effects of cuca, as well as its power to ward off fatigue and relieve oppressive respiration during mountain ascents' which the natives and Europeans domiciled in those countries have ascribed to their habit of cuca-chewing, and which seem to be so circumstantial that one cannot refuse some credit to the narrations, wonderful though certain of them be. The author gives full accounts from various writers of the baneful effects produced by an inordinate use of cuca; of the cultivation of the cuca plant; of the picking and drying of the leaves, which has to be very carefully accomplished to avoid their being spoiled; and then he goes on to mention the use of cuca as a restorative and beverage. The last chapters in the work are probably, however, those that readers will find the most interesting, inasmuch as they describe the pharmaceutical preparations of cuca and its medical uses, with copious references to its use, particularly during periods of sustained muscular exertion. The consideration of cucaine, its salts, and formulæ for several preparations in which it has been employed to various parts of the body; the uses of the drug in the very large number of ailments in which it has already been found beneficial, and a copious summary of the notes and references to it which have appeared in periodicals and papers within the last two years, bring this well-timed work to a close.

As the proportion of cucaine in good leaves is only 0·5 per cent., it is probable that the price of the drug, although now only a sixth part of what it was less than eighteen months ago, will remain high, and almost prohibitive of its common adoption in several departments of medical practice, unless a method of producing it by synthesis should be discovered by chemists. It is not altogether beyond reasonable expectation that such an advance in its production may be achieved; the hope to effect this most desirable object should stimulate 'all whom it may concern' to experimentalise in that direction. Assuredly a noble prize awaits the winner.

Article 5482.

Notes on Anæsthetics. By Arthur S. Underwood, M.R.C.S., L.D.S.Eng., Lecturer on Dental Anatomy and Physiology, and Assistant-Surgeon at the Dental Hospital of London. First Edition. London: Claudius Ash & Sons. 1885.

These notes will be found especially useful by dental students and practitioners, but surgeons and administrators of anæsthetics generally may be expected to gather many valuable hints from their perusal, particularly as the author acknowledges his indebtedness to Messrs. Braine, Bailey, and Bird for many of the statements which he makes. In the introductory chapter, which contains a slight history of anæsthetics, Mr. Underwood notices, with pardonable pride, the great services which American dentists have played in establishing artificial scientific anæsthesia in its present position. The second chapter is occupied with general considerations common to all anæsthetics; and in the third chapter the administration of nitrous oxide gas is fully described. This is the longest chapter in the work. The writer lays some precautions before the reader, and remarks that this is the main object of his book. His precautions are the following. First, the person who administers the gas should have nothing else to do during the operation; and the author goes on to remark that never under any circumstances should the operator administer the anæsthetic himself. Dentists who use nitrous oxide gas, and then perform extraction without the presence of a third person during the operation, should lay well to heart the advice here given. The next precaution is, that the administrator should watch with unremitting vigilance the patient's breathing; this is certainly the teaching of Sir Joseph Lister with regard to the use of chloroform, but there are cases in which the pulse should be watched quite as carefully as the respiration. A third precaution is stated in the following terms:—'Never to operate upon a patient when only partially anæsthetised.' In this bit of advice there is much wisdom.

Minor precautions to be observed, such as silence, upon the necessity of which Mr. Braine has insisted, the removal of artificial teeth, the proper time for food beforehand, and other points are duly noticed. M. Bert's experiments on gas given under pressure with oxygen are fully described.

The administration of ether is too shortly dismissed in the succeeding chapter, the last page of which is occupied by a slight notice of the serviceable A.C.E. mixture. It is allowable to hope that the efforts of many anæsthetists to bring this agent more prominently before the notice of the profession are at length bearing good fruit.

The next chapter, which relates to the administration of chloroform, is chiefly occupied by notes of M. Bert's experiments with known quantities of chloroform vapour. The author adopts the opinion that 'there is little or no danger of cardiac syncope during the careful administration of chloroform;' and that, where deaths have occurred, they have been mostly traced to three sources. The first element of danger is fright on the part of the patient previous to the operation; the second danger is that of shock conveyed to the heart owing to insufficient anæsthesia; the third danger is a very grave one, and is the administration of too strong a mixture of chloroform with air. Respecting these points, we go with the author; but, inasmuch as a too concentrated dose of ether does not act so prejudicially as a too strong dose of chloroform, we think that ether or the A.C.E. mixture should, where it is practicable, take the place of the former.

The latter half of the book is occupied with an excellent chapter on the physiology of anæsthesia, and with an appendix in which are contained notes on the duties of the operator, on artificial respiration by the Sylvester and Howard methods, and on syncope, on failure of respiration and on other subjects, together with descriptions and illustrations of certain apparatus.

Article 5483.

On the Fœtus in Utero. By Alexander Harvey, M.A., M.D. Pp. 140. H. K. Lewis. 1886.

The essays—five in number—comprised in this small volume are, virtually, reprints of papers on the subject of Fœtal Inoculation contributed by the author, the first three of them, in 1849-50, to the *Edinburgh Monthly Journal of Medical Science*, and the fourth, in 1859, to the *Glasgow Medical Journal*. The fifth was contributed, in 1866, to the *Indian Annals of Medical Science* by the author's son, Dr. Robert Harvey, Professor of Midwifery in the Medical College of Calcutta.

The first essay deals with the question of the fœtus in utero inoculating the maternal with the peculiarities of the paternal organism, and on the influence thereby exerted by the male on the constitution and the reproductive powers of the female. Many interesting facts are given bearing out this view. The second essay is a continuation of the same subject.

The third essay is on the fœtus in utero as influenced in its development by mental states in either parent. Singularly interesting cases are given in exemplification of this theory, which it is impossible to abstract; they must be read to be appreciated.

The fourth essay deals with the very practical question of the fœtus in utero, as the channel of transmission of constitutional syphilis from the male to the female parent.

The fifth essay consists of remarks on a case by the late Mr. Hey, of Leeds, illustrative of the transmission through the fœtus of secondary syphilis from the male to the female parent. 'The fœtus begotten of the father, from him inheriting the virus, and having *in utero* the disease resulting from it in such manner and degree as to impart it to its mother, through the medium of the placenta.'

To those interested in the question, the information given in these essays is well worthy of study, and will be welcome to the profession in their present convenient form.

Arthur W. Edis, M.D.

Article 5484.

Elements of Pharmacy, Materia Medica, and Therapeutics. By William Whitla, M.D., Physician to the Belfast Royal Hospital, &c. Third edition. London: Renshaw. 1885.

The third edition of this practical little manual has now appeared, after having been out of print for some time, partly, we are told, on account of the rapid run on the second edition, and partly to enable it to be brought up to date. Since text-books of this class can obviously have no pretensions to originality so far as the subject-matter is concerned, their chief satisfactory reason for existence must consist of improvements in the methods of grouping, with a view to facilitating the comprehension and remembrance of the technical details of the particular science which they are proposed to teach. Such a motive may fairly be claimed for the work before us, the salient feature of which is an alphabetical and sectional arrangement, adopted, the author says, with diffidence and misgiving in the first instance, but which has now been sanctioned by several years of popularity. The sections on Materia Medica and Pharmacy are thus kept quite separate and distinct from that devoted to Therapeutics; and it is quite possible that the author's good intentions have by this means been realised to a great extent. Another very excellent feature of the book is the eminently practical nature of the instructions in the department of Pharmacy, and in this respect the work is probably superior to many others of a similar character. Great stress, too, is laid on the rules of correct and elegant prescribing, and the necessary information is conveyed as briefly and as clearly as is compatible with a proper appreciation of the subject. The non-officinal remedies are very liberally dealt with, over seventy pages being devoted to their consideration.

The therapeutics are somewhat dogmatically treated; but, far from being a fault, this is in reality an indispensable condition of success in text-books for students. The same indulgence may be extended to the absence of the more recent views in some instances, views which are many of them still *sub judice*, and therefore superfluous for examination purposes.

The book, which is of a convenient size, is well got up, and is liberally illustrated where any need exists. Alfred S. Gubb.

NOTES ON BOOKS.

Article 5485.

Aids to Gynæcology. By Alfred S. Gubb, L.R.C.P., M.R.C.S., late Resident Obstetric Assistant, Westminster Hospital, Prizeman and Gold Medallist, &c. London: Baillière, Tindall, & Cox. 1885.

This little contribution to the science of gynæcology is evidently designed to aid the student in committing to memory the somewhat confusing and multitudinous details of symptoms incidental to woman folk, and to afford a summary insight into their cure and treatment. One of the principal qualities of this description of book is brevity, and this the author may be congratulated on having obtained. At the same time, the work appears to comprise all the salient features of the diseases, their symptoms, and treatment, and will doubtless answer its purpose very satisfactorily.

Article 5486.

A Treatise on Gout and Rheumatic Gout. By Austin Meldon, Licentiate and Member of the King's and Queen's College of Physicians, &c. Tenth Edition. London: Baillière, Tindall, & Cox. Dublin: Fannin & Co. 1886.

The subject of gout alone occupies nineteen-twentieths of this book; chronic rheumatic arthritis is dismissed in eight pages. The author's views on the nature of gout do not appear to be very clear, and nothing like an adequate discussion of the pathology of the subject is attempted. The account of the clinical aspect of the disease is good, and the book is well worth reading for the sake of the numerous interesting cases with which every part of the subject is illustrated. At the same time, it must be confessed that the reader is sometimes inclined to wish that fuller details of these cases were given; take, for instance, the case of locomotor ataxy cured in eight weeks by treatment directed against the patient's gouty tendency. Dr. Meldon is an advocate of venesection in the treatment of acute gout in patients of a plethoric habit, and appears to make habitual use of colchicum; he, however, does not begin the drug until the third day of the attack. The injurious effects attributed to colchicum are, he thinks, to be traced to its use at the very beginning of an attack.

Article 5487.

Lewis's Pocket Medical Vocabulary. London: H. K. Lewis. 1886.

This most useful little work should find a welcome corner on every library table. Words are frequently cropping up in medical literature, the correct spelling and pronunciation of which are a source of anxiety and thought to all. If at any time in the future such words should come to disturb our peace of mind, there can be no sympathy felt with the sufferers, for in this handy little volume we are able in a moment to find relief from all doubt, and a full but concise exposition of their meaning, as well as spelling and pronunciation.

Richard Neale, M.D.

Article 5488.

What is Medicine? By Albert L. Gihon, A.M., M.D., President of the Academy of Medicine of New York.

This essay is a reprint of the annual address delivered by Dr. Gihon in his capacity of President of the Academy, and has for object the delineation of the history and objects of the society. He is disposed to attribute the mediocrity of its success to the jealousy of practitioners, who resent the exclusiveness of the rule which makes a degree in arts a *sine quâ non* of fellowship. This he proposes to remedy in some way; but insists, nevertheless, on the immense advantage attending the possession of such a degree. He values the average American *M.D.* at a very low estimate, and draws a sorry picture of the money-grubbing propensities of the 'diploma mills,' and the crass ignorance of their graduates. If what the author says be true, there is certainly ample scope for improvement in the system of medical education in the States. It is a crumb of comfort to Englishmen that, if our own system is lacking in many respects, we are still perceptibly ahead of our American cousins, both from a professional and a social point of view. Alfred S. Gubb.

Article 5489.

Elements of Materia Medica and Pharmacy. By Alfred W. Gerrard, Examiner to the Pharmaceutical Society, Fellow of the Chemical Society, Teacher of Pharmacy, &c., at University College. London: H. K. Lewis. 1886.

There has been no lack during the past year or two of text-books and manuals, large and small, on Materia Medica and the allied sciences. Some of them are above the average student and some, it must be confessed, are below. The great point, from a student's point of view, is to have a book which shall enable him to master enough of what he considers a tiresome subject, to get through his examinations, beyond which his ambition does not often extend. To this class, the volume before us will probably appeal. The author, from his daily experience of the wants and weaknesses of students, has acquired a knowledge which has enabled him to furnish them with the required information, curtailed and tabulated, so as to allow of its assimilation without any unnecessary expenditure of brain-power.

The work is arranged so that the fundamental principles of pharmaceutical chemistry are taken first; and this chapter is followed by the usual description and nomenclature of medicinal plants, which constitute such a sore task to the overtaxed memory. The therapeutic properties of drugs are very briefly treated, probably in view of the recent re-arrangement of the regulations under which this section is relegated to a later and more opportune period of study. The book has much to recommend it, and will doubtless gain for itself a position in the technical library of students.

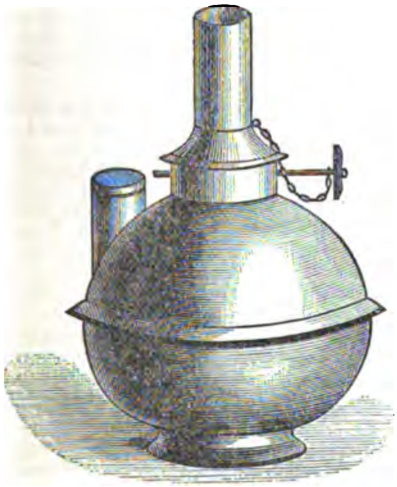
Alfred S. Gubb.

NEW INVENTIONS.

Article 5490.

IMPROVEMENTS IN MINERAL OIL LAMPS.

We are glad to be able to announce that an improvement, the need of which we have strongly pressed upon the attention of lamp manufacturers, is in a fair way of being realised. The accidents that appear to be inseparable from the use of petroleum and benzoline lamps, particularly in the cheaper kinds used by the poorer classes, are matters of notoriety, but they need no longer be so. Mr. William Hardy, jun., of Thistleton, Oakham, has invented an improvement which renders a benzoline lamp unspillable, self-righting, and self-extinguishing in the event of its being overturned. There is no apparent reason why two out of the three features named may not be applied to petroleum lamps generally. An illustration of a benzoline lamp retailed at one shilling is appended, though the engraving is not quite so correct a representation as might have been desired. The foot is shown too large, the stand in reality being only sufficient to keep the globular vessel in a state of equilibrium, and it rights itself immediately if thrown out of its upright position. The interior is constructed on the principle of the unspillable inkstand; consequently the contents cannot escape if turned over, and in the latter case a loose tube placed over the wick-tube, and secured by a chain, rises over the wick and extinguishes the lamp. This lamp appears to us to answer the requirements necessary in a 'perfect safety lamp,' and, being manufactured by a large firm in Birmingham, it should be obtainable at every lamp-dealer's in the kingdom.



Article 5492.

RIDING THIGH-BAND.

Mr. Salmon, of Wimpole Street, has lately introduced an improved riding thigh-band, which is well deserving of notice by a profession whose members are frequently on horseback for business and for healthful exercise. It consists of a band of checked jean, coated with a waterproof material, provided with the necessary straps and buckles. It can be readily adjusted to the thigh, and, from the nature of the material of which it is manufactured, can be kept in position without any further complications. It will, we believe, be found of great value, not only in the hunting field, but also in many cases of sprain. The band is made in several sizes, to suit the requirements of each particular case.

NEW PREPARATIONS.

Article 5493.

LANOLIN.

This new medium for ointments has lately been introduced by the illustrious professor of pharmacology in Berlin, Professor Oscar Liebreich; to whom the world is indebted for the discovery of chloral and for many other valuable additions to therapeutic knowledge. Lanolin is a pure animal oil obtained from keratin-bearing substances, and which has the most remarkable power of being absorbed. It is so rapidly absorbed and retained that it has achieved incomparable results in the treatment of skin-diseases, and it is particularly adapted as a base for blue ointment. In a series of cases of eczema, psoriasis, and a great variety of other skin-diseases treated by Dr. Lassar, Dr. Grawitz, and others, the results have been most remarkable. Professor Liebreich gives the following formulæ, which may be changed at will.

1. ℞ Argenti nitratis partem 1; lanolini partes 9. This ointment is somewhat solid; good to be spread on charpie.

2. ℞ Cerussæ partes 30; adipis partes 10; lanolini partes 60.

3. ℞ Emplastri plumbi simplicis partes 50; olei olivarium partes 20; lanolini partes 30. This salve appears solid, but becomes pliant as soon as brought into contact with the skin. In eczema, it should be heated until the water has evaporated.

4. ℞ Emplastri plumbi simplicis, lanolini partes æq. As an ointment, this form is too solid, but useful as a plaster.

5. ℞ Hydrarg. præcipitati albi partes 10; adipis partes 10; lanolini partes 80.

6. ℞ Hydrarg. oxydati partes 10; lanolini partes 90. When used as an eye-salve add 30 per cent. of fat.

7. ℞ Liquoris plumbi subacetatis partes 8; adipis partes 10; lanolini partes 80.

8. ℞ Zinci oxydi partes 10; adipis partes 10; lanolini partes 80.

9. ℞ Cinnabar partes 10; adipis partes 10; lanolini partes 80.

10. ℞ Hydrargyri partes 50; lanolini partes 12; unguenti hydrargi cinerei partes 2·5; sebi ovilli partes 25; lanolini partes 87·5, according to the formula of Dieterich.

11. ℞ Potassii iodidi partes 20; aquæ partes 10; adipis partes 20; lanolini partes 150.

12. ℞ Cetacei partes 10; olei olivarum partes 30 lanolini partes 40; aquæ rosarum partes 50.

13. ℞ Iodoformi partes 10; adipis partes 10; lanolini partes 80.

14. ℞ Chrysarobini partes 10 and 20; adipis partes 10; lanolini partes 80.

15. ℞ Picis liquidi partes 20; lanolini partes 80.

16. ℞ Balsami Peruviani partes 10; olei terebinthinæ partes 20; lanolini partes 70.

17. ℞ Acidi boracici partes 10; adipis partes 20; lanolini partes 70.

18. ℞ Acidi carbolici partes 5; adipis partes 5; lanolini partes 90.

19. ℞ Acidi salicylici partes 10; adipis partes 20; lanolini partes 70.

20. ℞ Naphthol partes 5; adipis partes 10; lanolini partes 85.

21. ℞ Lanolini partes 50; butyri cacao, adipis suilli, ana partes 5; olei rosarum gr. iij: a hair-pomade.

As can be seen from the formulæ, no fat is required in compounding salves where fluid extracts are used; but Dr. Liebreich especially warns against employing the full dose of toxic agents, as only one-half the dose is necessary. Thus a veratrine salve, consisting of fat 10 grains, veratrine 0·25 grain, produced no irritation on the skin; while a salve of lanolin 10 grains, veratrine 0·25 grain, was so strong that for five hours an intense burning sensation was perceptible on and about the point of application.

The London agents are Messrs. George Haller & Co.

MISCELLANY.

To Remove Warts.—According to the American *Therapeutic Gazette*, castor-oil, constantly applied for two to four or six weeks—that is, once a day—has not failed in any case of any size or long standing, in the hands of Dr. Dumm, of Columbus, Ohio.

Elastic Ligature.—M. Pozzi, at a recent meeting of the Paris Surgical Society, stated that the elastic ligature he had invented and showed to the society last November had been fully tested by use and observed to be of great service. Kœberlé and others use it, and find it highly satisfactory. With the elastic ligature of M. Pozzi, vessels can be ligated without the help of an assistant.

A New Journal.—The first number of the *Nouvelles Archives d'Obstetrique et de Gynécologie* has appeared. It is published under the direction of Professor Duplay, MM. Charpentier, Guéniot, and Polaillon, *agrégés* of the Paris Medical Faculty, Drs. Bernutz, Siredey, Porak, and Doléris. This journal will appear every month, and will contain contributions from foreign gynæcologists.

The *Union Médicale* of December 17, 1885, states that MM. Masius and Francotte, in a communication to the Belgian Academy of Medicine, assert that the ankylostomum duodenale exists in the coal-mines of Liège. They have treated thirty-seven miners in their hospital wards. In seven, they ascertained the presence of the eggs of the parasite. Extract of male fern, prepared with ether, has always expelled the ankylostomum without producing any subsequent derangement.

Small-pox concomitant with Vaccination.—It is generally admitted that vaccination, successfully effected more than three days anterior to an attack of small-pox, has a favourable influence on the illness. In an instance, described by M. Bernheim at a meeting of the Medical Society of Nancy, a patient was vaccinated five days before he was seized with small-pox, but the disease assumed the hæmorrhagic form, and proved rapidly fatal. At the necropsy, it was observed that there was softening of the middle portion of the gyrus fornicatus. In the posterior portion of the thalamus, underneath the occipital lobe, there was a softening of the tissues, extending over a considerable area.

Prevention of Blood-clotting.—In the *Medicinische Jahrbücher*, 1886, Part I., Ernest Freund contributes an important note on the prevention of blood-clotting. He has found that blood may be kept unclotted for a day or more in a vessel which has its inner surface well oiled or smeared with vaseline, provided the surface be prevented from drying and dust excluded. Blood conveyed by an oiled cannula to a fish-bladder, well soaked in 6 per cent. solution of chloride of sodium and kept in a solution of the same, did not clot. [Fifty years ago, the late Dr. B. G. Babington pointed out that, when blood was caused to flow into a vessel containing oil, an impervious coating was formed on the surface, and coagulation was retarded.]

The Influence of Forebodings in Disease.—In the *Asclepiad*, January 1886, Dr. B. W. Richardson writes that there are two kinds of forebodings—the fanciful and the serious. False forebodings are presented by persons of flighty or fanciful natures, who are really fond of contemplating risks, and who suggest anxieties one minute but laugh at them a few moments afterwards. These forebodings have no serious importance. True or serious forebodings emanate from persons who are firm and thoughtful, who, as a rule, keep to themselves what is on their minds until something like a crisis has been reached, when they come to a conclusion to which they adhere and by which they are much influenced. These forebodings in a critical disease are bad: they have a direct effect upon the physical powers, the heart's action is impaired, the digestion becomes affected, and there is a want of tone very much opposed to restorative efforts. It is a wise plan to take as little notice of these forebodings as possible, but to ridicule them is bad.

Instantaneous Photography in Physiology.—Dr. William Gilman Thompson has published a short paper (*New York Medical Record*, March 13, 1886) on a method of obtaining instantaneous photographs of the heart and intestines in motion. The full details of the process are not published, but it is stated that photographs were obtained by direct sunlight, using an instantaneous drop-shutter giving an exposure of about one-sixtieth of a second. A piece of celluloid was slipped behind the heart as a background. The advantages claimed for the method are, that the photographs are more accurate than drawings or casts, that the heart is more nearly in a natural condition than in any other method of studying its action, that series of photographs may be taken between full systole and full diastole, that the negatives placed in a magic-lantern show well on a large scale, and that the action of drugs can be very well demonstrated, changes in bulk and in the completeness of the systole being clearly shown. Instantaneous photographs of the intestines show 'the effects of progressive degrees of contraction of both longitudinal and circular muscular fibres, and the effects of stimuli, chemical, thermic, mechanical, &c.'

Contagion of Tuberculosis.—At a recent meeting of the Société Médicale des Hôpitaux, M. Vallien read a report on the contagious properties of tuberculosis. The Society sent a list of questions to 10,000 medical men, and received 173 answers. Those who answered were classified as follows: 57 believed in contagion, 57 disbelieved in it, 7 gave doubtful replies, and 2 were incomprehensible. Of 439 cases forwarded, 213 supported the hypothesis of contagion, and 226 were against the theory. The 213 cases favourable to the theory were as follows: 107 were husbands and wives, 71 near relations, 18 the offspring of phthisical parents, and 16 were distant relations. In one instance, the disease was said to have been transmitted from a master to his dog. Heredity is an important factor in the propagation of tubercle. Tuberculosis is, the report states, more frequently inherited from the mother than from the father. Inherited tuberculosis is manifested sooner than when contracted from proximity with the contagious principle. It is difficult to ascertain what is the exact proportion of cases due to contagion. It is roughly estimated to be one in ten among the well-fed classes; among the poor classes it is much greater. Data are at hand which indicate that phthisis has been imported into isolated localities and islands by inhabitants from neighbouring countries where the disease existed.

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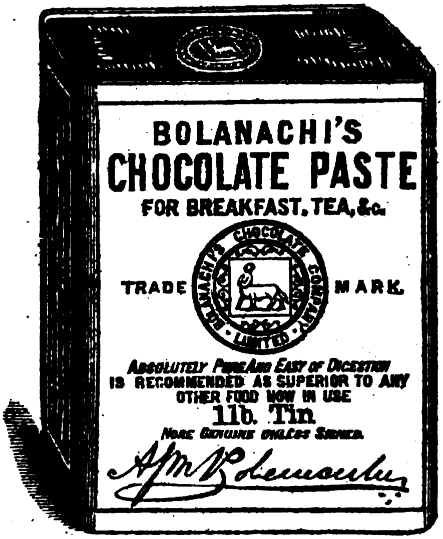
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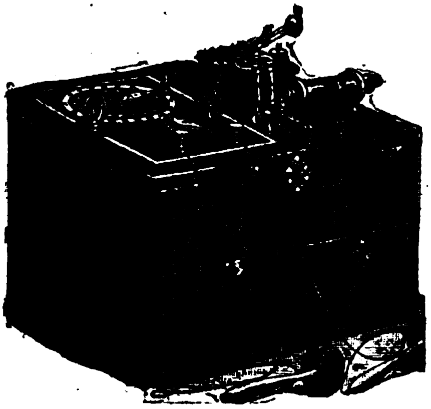

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Vide '*BRITISH MEDICAL JOURNAL*,' *January* 2, 1886, *p.* 25.

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No. 131. New Series] **[May 15, 1886**

The London
Medical Record

A MONTHLY REVIEW OF THE

Progress of the Medical Sciences and of Subjects relating to Public Health

EDITED BY ERNEST HART

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THE LONDON
MEDICAL RECORD.

MAY 15, 1886.

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Article 5494.

HACK AND OTHERS ON REFLEX NEUROSES CONNECTED WITH THE NOSE.

After a few papers on this subject by Voltolini, Seiler, Elsberg, John Mackenzie of Baltimore, Bresgeu and B. Fraenkel, W. Hack, of Freiburg, published in 1884 his now celebrated monograph on the Radical treatment by operation of certain forms of migraine, asthma, hay-fever, &c. (*Ueber eine Operative Radical-Behandlung bestimmter Formen von Migräne, Asthma, Heufieber*, &c.: Wiesbaden, 1884). In this work Hack related numerous cases of asthma, nightmare, cough, migraine, sneezing, supra-orbital neuralgia, swelling and redness of the skin of the nose, giddiness, &c., which had been successfully treated by him by the application of the galvanic cautery to various parts of the nasal mucous membrane, but chiefly by destruction of the erectile bodies on the anterior extremities of the inferior turbinated bones. He considered, in fact, that swelling of these structures was a *sine quâ non* for the production of the reflex phenomena — a position which he subsequently abandoned (*Deutsche Med. Wochensch.*, July 10, 1884). This remarkable treatise, as might be expected, attracted much attention, especially on the Continent of Europe and in America, and the literature on the subject has since then grown to such enormous proportions that a mere enumeration of the articles dealing with it would extend to great length. It has now been clearly established that there are numerous reflex phenomena connected with the nose; but in regard to their mode of causation, the particular parts of the nasal mucous membrane giving rise to them, and especially as regards the indications for attributing the symptoms above mentioned to the nose, opinions are much divided. Amongst the early papers, Voltolini first described asthma, the result of nasal polypi. Seiler related several cases of cough produced by touching the anterior parts of the nasal cavities. John Mackenzie, on the other hand, considered that the most frequent point of origin of reflex nasal cough is the mucous membrane covering the posterior part of the inferior turbinated body, and that of the septum immediately opposite; but that it may also be produced by the mucous membrane covering the middle concha, and that on other parts of the inferior. In regard to treatment, Hack, in a recent paper (*Centralblatt für Laryngologie, Rhinologie, &c.*, October 1885), still maintains that destruction of the erectile tissue is necessary; as will be seen below, however, other observers do not share this opinion. Hack's latest report on the treatment of asthma (*ibidem*) shows that he has operated on 87 cases, but the result was only known in 62. Of these, 33 were so far permanently cured, that, though in some, nearly four years had elapsed, there had been no recurrence. Seventeen were markedly improved, and twelve remained unbenefited; the latter being either cases of long duration, those occurring in elderly persons, cases of marked lung-disease, or patients with an evident hereditary tendency to neurotic conditions.

After this bare outline of the subject, we must, owing to the extent of the literature, be content with mentioning the names of some of the workers, reserving a few of the most recent papers for separate notice. The writers on this subject include, amongst others, the names of Sommerbrodt, E. Fraenkel, Meyerson, A. Klein, Schaeffer, Goetze, Semon, Küpper, Morell Mackenzie, Hunter Mackenzie, Daly, Roe, Sajous, Schmiegelow, Wille, De Vilbis, Fényköyy, Longuet, Köhler, Schwanebach, Roth, Féré, Schadewald, Ensing, Schleicher, Fincke, Runge, Ziem, Rosenberg, Schmaltz, Hofmann, and the reporter.

Dr. Baratoux (*Revue Mensuelle de Laryngologie, &c.*, December 1885) has found that the posterior part of the septum gives rise to reflexes. Contact of the probe with this part, he says, in a certain number of persons produced cough, sneezing, and even dyspnœa. Swelling of the conchæ, he considers, only gives rise to these symptoms by the pressure which, when swollen, they exert on the septum. Polypi act in a similar manner. Dr. A. Cartaz (*France Médicale*, Nos. 89 and 90, vol. ii., 1885) describes the case of a young woman suffering from chronic coryza with violent attacks of sneezing. The inferior turbinated body was hypertrophied (? erected.—*Rep.*). On its posterior part was an ulcerated spot. On touching this with a probe, the patient was seized with a kind of spasm, with lacrymation and facial pallor, followed by contraction of the extremities, the hands being clenched and the feet extended and rigid. The attack lasted a quarter of an hour. On a subsequent occasion, by painting first with 10 per cent. solution of cucaine, Dr. Cartaz was able to touch the ulcer with a solution of nitrate of silver without producing any reflexes. Subsequent treatment of the inferior turbinated body with the galvanic cautery relieved the hypertrophy and sneezing. The author relates another case of a boy, aged 13, who was relieved of attacks of sneezing and cough by removal of a nasal polypus, and by linear galvano-cauterisation of the inferior concha at the same sitting. Two cases of hay-fever are also described, in which the most minute examination showed no morbid change in the nose.

Dr. Theodore Hering, of Warsaw (*Annales des Maladies de l'Oreille, du Larynx, &c.*, February and March 1886), in a long article on this subject, confirms Hack's observations concerning the relation which subsists between numerous reflex neuroses and nasal affections, but considers that clinical observations do not bear out the theory that the former are dependent on swelling of the turbinated bodies, nor does experience show the efficacity of an uniform treatment consisting of destruction of the erectile bodies. He admits John Mackenzie's sensitive zone, but extends it to the whole septum. The author describes a case of spasmodic cough of a year's duration, in which the right inferior turbinated body was much erected and in contact with the septum. On touching the turbinated body with a probe, an attack of cough was induced, but ceased entirely on the application of the galvanic cautery to the inferior concha. Amongst 200 cases of nasal polypus, the author has only met with six cases of asthma, four of which were cured by extraction of the growth. He has had twenty cases of asthma produced by hypertrophy of the inferior and middle conchæ, twelve of which were cured. He considers cured those only which have remained free from relapse for a year. Of ten cases of migraine, four were cured, two improved, and one was made worse. Of three cases of vertigo, caused by hypertrophy of the middle turbinated bodies, two were cured by removal of the anterior part of the conchæ; in the third case, the relief being but temporary, and there being a history of syphilis, a course of iodine was employed, with the result of a permanent cure. Of three women suffering from violent spasmodic sneezing, two were cured by cauterisation of the middle turbinated bodies, which were very adherent to the nasal septum; the third was only cured after complete removal of the left middle turbinated body by means of Mackenzie's forceps. Of four cases of hysterical affections of the larynx, two were cured, one much improved, and one still remained under treatment. The changes found in the nose in most of these cases were hypertrophy of the middle conchæ, rarely of the inferior. From its close proximity to the septum. Dr. Hering considers that the middle turbinated body often becomes adherent to the latter, and on touching this spot he found it extremely irritable. [The author apparently touched the tubercle of the septum described by the reporter in *A Guide to the Examination of the Nose*, p. 80. This structure projects in front of the middle turbinated body.—*Rep.*] The author relates two cases of aphonia from spasm of the co-ordinators of the larynx, which he considers probably of nasal origin, but in which the connection does not appear very clear. Then follows the account of a case of laryngeal spasm (respiratory), which was cured by removal of a small polypus from the right middle turbinated body, and by cauterisation of the left with chromic acid; also a description of two cases of hysterical dyspnœa, more or less relieved by cauterisation of the nasal mucous membrane. Two cases of hysterical aphonia are also described, one relieved by a single injection of iced water into the nose, the other after four injections of a solution of borax at 16° to 24° R. (68° to 86° F.). However, the connection of the aphonia with a nasal affection in these cases appears doubtful. Summing up his experience, the author has convinced himself that reflexes are almost always produced by compression or irritation of the septum, either at its anterior or posterior part. This may be caused by a polypus, by hardened secretion, or by swelling of the conchæ, which latter, therefore, only play a subsidiary part in their production. The author inveighs strongly against the indiscriminate destruction of the erectile bodies, and thinks that destruction or thickening (*sic*) of the epithelium is sometimes sufficient to bring about partial or entire relief. Dr. Hering recommends very strongly cauterisation of the mucous membrane by means of chromic acid melted on to a silver probe. If this fail, he has recourse to the galvanic cautery. Polypoid excrescences are to be removed by the galvanic cautery loop. If, in spite of chromic acid and the galvanic cautery, it be impossible to prevent the adherence of the middle turbinated body to the septum, and the observer be still convinced that these regions are the origin of reflex neuroses, the hypertrophied portions of the concha can be removed with Mackenzie's bone-forceps. After these operations, the patient is to remain indoors for four days. Twenty-four hours after the operation, the surgeon is to apply a warm douche of borax or boracic acid, and some days later to remove the eschar with forceps. Adherent portions are to be separated by means of a piece of wool or a plate of ivory.

The preceding remarks refer to reflexes produced by irritation in the nasal cavities proper; the naso-pharynx is, however, also responsible for some reflex phenomena. This point has been referred to by Dr. Woakes (*Postnasal Catarrh*, p. 107), and quite recently by Dr. Jacobi, President of the New York Academy of Medicine, in an article on 'Partial, and sometimes general, chorea minor from naso-pharyngeal reflex' (*International Journal of the Medical Sciences*, April 1886, p. 517 *et seq.*). Dr. Jacobi considers that the convulsive muscular movements of the face and upper portions of the trunk frequently seen in children, are due to an abnormal state of the nasal and pharyngeal mucous membrane, acting through the terminal sensitive ends of the trifacial nerve. For many years he has observed cases of blepharo-spastic winking, momentary and frequent frowning, twitching of the angles of the mouth, drawing up and wrinkling of the muscles of the nose, shrugging of one or both shoulders, frequent snuffing up or snuffing out, hawking, short hacking cough, and other symptoms, which he considers due to this cause, and not necessarily directly connected with any general neurosis. No cases in support of these views are, however, given in the paper.

E. Cresswell Baber, M.B.

Article 5495.

TCHISTOVITCH ON THE PHYSIOLOGICAL ACTION OF THALLIN.

In a preliminary note in the *Ejenedelnaia Klinitcheskaia Gazeta*, No. 28, 1885, p. 515, Dr. Nikolai Tchistovitch, of Professor S. P. Botkin's laboratory, states the results of his experimental researches into the physiological action displayed by sulphate of thallin in dogs, rabbits, and frogs. These results may be given thus.

1. In warm-blooded animals, when introduced in any way in doses of 2 centigrammes to 2 decigrammes per kilogramme of the animal's weight, thallin manifests but a varying influence on the normal bodily temperature, the latter being sometimes lowered several tenths of a degree (C.), in other cases unchanged, and now and then even increased. At all events, as far as healthy animals are concerned, there exists no correlation whatever between the dose used and the thermic depression obtained.

2. In febrile animals, thallin invariably lowers the temperature; the amount of the fall being dependent upon the dose used. Doses of 2 to 10 centigrammes per kilogramme lower the temperature from 0°·5 to 3°·0 C. (0°·9 to 5°·4 Fahr.), the antipyretic effect lasting from two to six hours, and disappearing gradually.

3. On the subcutaneous injection of effective doses into febrile dogs, no marked change in the arterial tension is observed.

4. On the intravenous injection of doses of 2 centigrammes and more, a fall of the blood-pressure and a retardation of the cardiac action are obtained.

5. The fall of the blood-pressure results mainly from the action of thallin on the peripheric vaso-motor apparatus, and partly from its action on the heart itself. The following facts are adduced in support of this assertion. *a.* After a fall of the arterial tension, induced by an intravenous injection

of thallin, artificial asphyxia causes a slighter rise of the tension than before the poisoning by the drug. *b.* Experiments on an animal, with the posterior half of its body elevated, show that, when small doses are injected into the vein, the cardiac contractions remain fairly strong; but on the use of larger doses the heart becomes weak. *c.* Simultaneous division of the spinal cord above the first vertebra, and of the vagi, does not alter markedly the fall of blood-pressure. *d.* Faradisation of the peripheral end of the splanchnic nerve (divided after the fall) does not produce any rise of the blood-pressure. *e.* Stimulation of the proximal end of the divided sympathetic nerve (in rabbits) is not followed by the usual constriction of the vessels of the ear. *f.* After the arterial tension has been depressed by thallin, stimulation of the peripheral end of the divided pneumogastric (in dogs) does not bring about any marked change either in the tension or in cardiac rhythm.

6. In normal (non-curarised) frogs, a hypodermic injection of two or three milligrammes of thallin first quickens and then retards the cardiac contractions. Larger doses (from eight to ten milligrammes) usually retard the contractions, the latter becoming more prolonged and the intervals between them increasing. In curarised frogs, even small doses (3 milligrammes) cause cardiac retardation.

7. The arterial tension in frogs invariably sinks, even after the hypodermic use of small doses (3 milligrammes).

8. A 0·5 to 1 per cent. solution of sulphate of thallin does not manifest any marked influence on the artificial digestion of fibrin, but a 2 or 3 per cent. solution considerably inhibits the process.

9. Alcoholic fermentation of grape-sugar becomes somewhat retarded when 0·1 per cent. of thallin is present; it is very markedly inhibited by 1 per cent., and is arrested altogether by 5 per cent. of the drug. [That is, as an antifermentative remedy, thallin is weaker than quinine or kairin.]

10. Thallin similarly inhibits the alkaline fermentation of urine. V. IDELSON, M.D.

ARTICLE 5496.

POSADSKY ON ANTIPYRIN IN CROUPOUS PNEUMONIA.

FOLLOWING the suggestion of Professor S. P. Botkin, Dr. Stepan V. Posadsky has studied (*Ejenedelnaia Klinitcheskaia Gazeta*, Nos. 30–33, 1885) the action of antipyrin on the course and issue of croupous pneumonia in twenty-five patients in the Alexandrovsky Town Barrack Hospital. The drug was given in doses varying from half a gramme to two grammes, from one to eight grammes being taken in a day. For the sake of comparison, other twenty-three pneumonic patients were treated by calomel, administered in the dose of one eighth of a grain, four times daily. No other means, except occasional ice-bags to the head, were employed in either of the parallel groups; and generally no efforts were spared to establish the closest possible similarity between the groups in regard to every particular. All forty-eight patients were male, and belonged mostly to the class of hard-working labourers and artisans. The average age of the patients treated by antipyrin was 27·5; that by calomel, 25·6. In 40 per cent. of the antipyrin cases left-sided, and in 60 per cent. right-sided pneumonia was present; the respective figures for the calomel cases were 34·7 and 60·9, the remaining 4·3 per cent. presenting a both-sided affection. The average duration of the disease before admission was 2·8 days in the antipyrin group, and 3·3 in the calomel one. The antipyrin treatment commenced on an average 4·6 days after the onset, and the calomel treatment 4·9.

The outcome of the author's observations may be sketched as follows. Under treatment by antipyrin, the patients usually remain fully conscious, but about the third or fourth day their general strength, and especially cardiac action, sink, the number of pulse-beats varying between 58 and 120 (on an average 97), the respiration between 20 and 48 (average 33) a minute. All the time the patients perspire, sometimes very considerably; they expectorate scanty sputum (of typical rusty colour). The temperature falls after the first doses of the drug, but only temporarily; on the administration of subsequent doses, be they even increased, it usually rises again to the original level, or even above it. Sometimes no decrease whatever is observed. With the advent of resolution, the temperature commences to fall on the seventh day of the disease, but the average number of febrile days is 8·1. The local phenomena exist on an average 13·5 days.

Complications were present in almost all the cases; in five, serious collapse was observed. [In one of the latter the collapse ended fatally, in spite of the use of stimulants. The patient, aged 56, was admitted on the sixth day of right-sided pneumonia, and sank after two doses of thirty-two grains of the drug, the second dose having been administered six hours after the first. On the *post mortem* examination, a slight intrapericardial accumulation of serum, and fibrinous deposit on the pericardium, were found.] In twelve other cases comparatively less considerable prostration, languor, and apathy were present. The urine almost invariably contained a considerable quantity of albumen, and often of antipyrin. In two cases there appeared 'antipyrin erythema,' which closely simulated measles, attacked both the skin and the mucous membranes, lasted pretty long, and was accompanied by slight itching. In four patients, antipyrin caused vomiting. The average loss in the body-weight in the antipyrin cases was somewhat less than in the patients treated by calomel, but during convalescence the original weight was gained in the latter group far more rapidly than in the former.

Under the calomel treatment, the patients often were in a typhous state, sometimes delirious; but their cough was less troublesome, and the expectoration easier and more abundant, than in the antipyrin patients. As a rule, the patients did not perspire, the temperature remaining high up to the crisis. The pulse varied between 60 and 122 (in average 94), the respiration between 16 and 48 (in average 32). Crisis occurred on an average on the eighth (7·1) day, and was usually accompanied by profuse sweats. The average duration of the disease was nine days. Albuminuria was comparatively rare, and then but trifling. Such complications as collapse, vomiting, and rashes, were absent.

Of forty-eight patients three died, one of them from collapse, probably induced by antipyrin; another, treated by calomel, from intercurrent pericarditis with profuse serofibrinous effusion; and a third patient, aged 32, in whom left-sided pneumonia had been followed by right-sided, and who had been subjected to the calomel treatment during the former attack, and to the antipyrin treatment during the latter, died from collapse; on the *post mortem* examination, sero-fibrinous pericarditis was found.

From all the facts above, Dr. Posadsky draws the general conclusion that 'in croupous pneumonia, antipyrin, as an antipyretic means, belies its name; and that, in view of the general influence produced by the drug on the course and issues of the disease, its use here is decidedly not justified.'

V. IDELSON, M.D.

ARTICLE 5497.

GRETCHANINOFF, OBOLENSKY, AND TRACHTENBERG, ON WASHING OUT THE STOMACH IN INTESTINAL OBSTRUCTION.*

DR. ALEXANDR A. GRETCHANINOFF, of Nukha, Elisavetpol Government, records (*Proceedings of the Caucasian Medical Society*, No. 11, 1885, p. 359) the case of a previously healthy post-coachman, aged 50, who, in a few hours after severe muscular exertion (pitchforking a cartload of hay up to a high loft) immediately following a heavy supper, suddenly began to suffer from intense pain around the navel and in the right iliac fossa, to which vomiting and distension of the belly soon added themselves. A large dose of castor-oil did not act. The symptoms daily grew worse. On the eighth day, the man was brought to a local lazaretto in an exhausted state, with pinched face, incessant hiccough, fæcal vomiting, greatly distended and 'almost spheroid' abdomen, constant abdominal pain and tenderness on deep pressure, very scanty micturition (a tablespoonful in twenty-four hours), loud and painful rumbling of the bowels, and dulness on percussion over the right iliac region. A volvulus of the small bowel was diagnosed. At first effervescent enemata were (twice) tried, but, as they proved of no avail, six hours later the stomach was washed out with five fluid pounds of water (28° R.). About ten fluid pounds of liquid returned, a quantity of fæces being added to the water used. A distinct improvement of all the symptoms took place immediately. The procedure was repeated four times during the next thirty-six hours, by the end of which time (on the tenth day of the disease) two motions successively followed. Eight days later, the patient left in good health. Feeling encouraged by his success, Dr. Gretchaninoff comes to the conclusion that washing out the stomach represents a rational, radical, and very simple means for treating intestinal obstruction of any kind. [Drs. Makushin and Scheffer's successful instances of practising Kussmaul's method may be found in the LONDON MEDICAL RECORD, 1885, April, p. 148, and June, p. 251.—*Rep.*]

In the *Vratch*, Nos. 38 and 39, 1885, Professor Ivan N. Obolensky, of Kharkov, details the case of a gentleman, aged 33, with a left inguinal hernia of eighteen years' standing, in whom there appeared constant umbilical pain, and, six days later (after the administration of castor-oil, which had effect), obstinate vomiting, which on the next day assumed a fæcal character. The author, who first saw the patient on the tenth day after the appearance of pain, and on the fifth day of constipation, diagnosed either intussusception of the small bowel, or twisting of the mesentery, in consequence of shortening of the latter under the influence of hernia. The treatment consisted in washing out the stomach every morning, and in administering large enemata every evening. During the first and second days of treatment, only gases escaped; but on the third day scanty, and on the fifth profuse, stools followed. The subjective feelings improved, and vomiting and eructations ceased after the first washing out. A few days later, the patient was well and strong, his bowels moving regularly daily. Dr. Obolensky insists on the advisability of treating intestinal obstruction by simultaneously washing out the stomach and making large enemata, the latter inducing lively peristalsis in the lower portion of the intestinal tract, and thus promoting a setting to rights of bent or invaginated bowel; while the former procedure acts in the same direction by producing peristalsis—or, rather, antiperistalsis—in the parts above the site of obstruction. At the same time the author, like Kussmaul, admits that the washing out leads to cure, also, by diminishing the contents of the abdominal cavity, and by removing undue distension and strain in the bowel above the stricture.

Following the instance of Kussmaul, Cahn, and Senator, Dr. G. Trachtenberg, of the Mariinskaia Infirmary, in St. Petersburg, has tried (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 36, 1884, p. 568) washing out the stomach in a retired soldier, aged 47, with a history of occasional constipation, who was admitted with severe symptoms of acute intestinal obstruction of five days' standing. A previous administration of opium and high enemata had failed to afford any relief, prostration and fæcal vomiting steadily increasing. On the eighth day of the disease, washing out was resorted to, and repeated four times within nine hours. After the first sitting, a subjective improvement ensued; after a second, vomiting ceased; and two and a half hours after a fourth, the first porridge-like motion appeared, and was soon followed by three others. As far as the obstruction was concerned, relief was complete; but a day later intractable diarrhœa set in, and five days afterwards the patient died from collapse. At the *post mortem* examination, there were found diphtheritic colitis and old chronic adhesive peritonitis. The omentum and mesentery were firmly and extensively adherent to the bladder, pelvic walls, and ileum, the latter forming numerous entangled and fixed bendings, with narrowing of the lumen. The symptoms of obstruction were most likely caused by jamming in of a hard bit of fæces, which was then successfully removed by the treatment. Scrutinising the details, Dr. Trachtenberg points out that an operative disentanglement of the bowel would prove impossible, and the operator would feel compelled to limit himself to opening a loop somewhere above the narrowed portion in order to empty the intestinal canal. The latter object, however, may be as effectively and incomparably more safely and simply attained by Kussmaul's procedure. Hence the author recommends to perform several washings out before resorting to cutting operations in every (especially acute) case of intestinal obstruction. He advises, also, that a fair trial should be given to the method in cases of incarcerated hernia (especially of an internal kind, such as obturator or ischiatic hernia, &c.).

V. IDELSON, M.D.

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* GRETCHANINOFF, ALEXANDR A.—Washing out the Stomach in a Case of Intestinal Obstruction of Ten Days' Duration (*Proceedings of the Caucasian Medical Society*, No. 11, 1885, pp. 359-64). OBOLENSKY, PROFESSOR IVAN N.—On Intestinal Obstruction and its Treatment by Washing out the Stomach (*Vratch*, 1885, No. 38, p. 623, and No. 39, pp. 644-45). TRACHTENBERG, G. J.—A Case of Washing out the Stomach in Intestinal Obstruction (*Ejened. Klin. Gazeta*, No. 36, 1884, pp. 566-70).

Article 5498.

SMITH ON THE USE OF IODOFORM IN THE TREATMENT OF TUBERCULAR PHTHISIS.*

The earliest observations on iodoform are those of Righini, who maintained that this substance is superior to other preparations of iodine in possessing anæsthetic, as well as antiseptic and antimiasmatic properties. It does not cause the local irritation and other symptoms which result from the older forms of iodine. After its use, the drug was found in the excretions, also in the blood, saliva, sweat, milk, tears, mucus of nose, menstrual fluid, urine, bile, fæces, and liquor amnii. Emaciation was never observed.

Professor Semmola, of Naples, at the meeting of the International Congress at Amsterdam, in 1878, directed attention to the utility of iodoform in lung-disease, when given internally. The cases treated were described as broncho-pneumonia, bronchial catarrh, asthma, &c.

Expectoration lessens, often very rapidly, and with it the cough and paroxysms of dyspnœa; pyrexia gradually lessens, a result believed to be due to disinfection of the secretions and putrid material absorbed from foci of softening. Semmola disclaims any intention of bringing forward iodoform as a remedy for tuberculosis, or for all caseating affections of the lung; but he found that cases of incipient phthisis were cured, and in advanced cases expectoration was lessened, cough and fever were moderated, caseation was arrested, and life was prolonged. The observations of Binz on a cat also show that the internal use of iodoform lowers the temperature, pulse, and respiration, and that it checks suppuration by paralysing the white blood-corpuscles, and so preventing their wandering through the walls of the vessels.

Dr. Colsfeld, of Bremen, records a case of phthisis with a temperature of 103° to 104°, in which the external application of iodoform-collodion was followed by a lowering of temperature. On several occasions the same result was observed, and the expectoration was reduced in quantity.

Sormani, and Drs. Renzi and Rummo, have found that iodoform given by inhalation is much more prompt in action than when taken by the stomach; and Beetz found that benefit was derived by the insufflation of finely divided iodoform rubbed up with ether.

The discovery of the tubercular bacillus in cases of phthisis naturally suggests the conclusion that a substance containing nine-tenths of its weight (96 per cent.) of nascent iodine, so loosely combined that it is set free within the body, might give rise to beneficial results in consequence of its powerful disinfectant and antiseptic action. Observations on the germicide value of iodine have been made by Sternberg, of the United States army. He finds that the quantity of iodine required to prevent the development of test-organisms is one part in four thousand. The quantity of iodine necessary to prevent the development of the septic micrococcus in the blood of an adult weighing 160 lbs. would be thirty-five grains, a dose which it is entirely impracticable to administer in the ordinary medicinal forms. But in iodoform we have an agent which permits the introduction of iodine into the system in larger doses than are tolerated, when the element is given uncombined in the form of tincture or in solution with potassium iodide. And we have evidence that this substance is not eliminated so readily as in the potassium salt, and that it is decomposed within the body.

The expectation that the germicide action of iodoform might be of service led Dr. Dreschfeld, of Manchester, to administer the drug in cases of phthisis. He found the following benefits from its use; 1. increase of weight; 2. increase of appetite; 3. diminution of cough and expectoration; 4. diminution, or even total cessation, of night-sweats; 5. the temperature was often a little lowered.

Dr. Shingleton Smith's own observations commenced with a case of acute catarrhal tonsillitis, occurring in an adult suffering from bronchitis and condensation of the apex of the right lung. The sputum contained bacilli. On iodoform being given, the tonsillitis rapidly subsided, the lung-symptoms also began to diminish, the temperature became normal, the cough less, the expectoration gradually ceased, and the patient gained fifteen pounds in weight in the course of seventy-seven days. On the last occasion that the sputum was examined, no bacilli could be found. The diminution in number and size and disappearance of the bacilli under treatment by iodoform has been observed frequently.

A somewhat remarkable case given is one of very acute pneumonic phthisis with constant high pyrexia, and with sputum crowded with large fully developed sporulated bacilli. After three weeks of iodoform treatment, only a few ill-developed small bacilli could be found with one-twelfth oil-immersion of Zeiss, and they were altogether overlooked with a quarter-inch power. At the same time, the patient's general health had improved, the temperature had become normal, all active lung-mischief had subsided, and the rapid wasting had been arrested.

A remarkable instance of gain in weight is shown in the case of a woman of middle age, in whose sputum tubercle-bacilli were found, and who had lost twenty-eight pounds in weight; the lung-signs were of an indefinite character. On being given iodoform, she gained thirty-two pounds in ninety-nine days, the lung-signs entirely cleared up, and there was no expectoration. In a case of pneumothorax, which was treated with iodoform, all active symptoms subsided, the temperature became normal, expectoration ceased, and the patient gained thirty-three pounds in 110 days, and appeared to be well.

Next to increase in weight, the most notable result of the action of iodoform appears to be fall in temperature. In one case, there was a fall of the evening temperature from 104° to 98°·8 in fourteen days; in another case, a fall from 102° to 98°·6 in ten days. Diminution of cough and expectoration were constant features, apparently resulting from the treatment, and the copious secretion of bronchial mucus became diminished. Night-sweats have not frequently been sufficient to require atropine in patients taking iodoform. It was frequently necessary to suspend the drug in consequence of difficulty of digestion; it now and then gave rise to nausea and eructations.

Iodoform may serve an important purpose in preventing self-inoculation of the intestine by means of the bacilli-loaded sputum, which must at times be swallowed.

In reference to poisoning by iodoform, cases have been reported by Schede of Hamburg, and by Küster and Kocher of Bern. Some persons have a peculiar idiosyncrasy towards iodoform, and most severe toxic symptoms may develop suddenly; there may be rise of temperature to 104°, headache, anorexia, small and rapid pulse, collapse, melancholia, &c. Binz has noticed anæsthetic or hypnotic effects. Two cases have been reported by Oberländer. In one case there were dizziness, weakness, diplopia, vomiting, drowsiness, alternating with excitement, foolish talking, twitchings, and inability to stand; in the other case, somnolence, uncertain gait, and headache were followed by coma, which lasted five days. Out of the forty-six cases reported by Dr. Shingleton Smith, only one case showed symptoms of a serious character. The case was one of rapid phthisis, with high temperature and much wasting; iodoform was taken from Aug. 17 in doses of ten grains daily, increasing gradually up to doses of thirty grains daily from Sept. 5 to Oct. 6, 1883. On Oct. 2 the patient complained of weakness, and on the third he vomited several times. On the 5th, he could not see distinctly; everything appeared to be in a fog; he could not read, and he saw cats and other creatures running about; he had various delusions and hallucinations, and was so giddy and weak that he was obliged to be in bed. Immediately the drug was stopped the symptoms abated, but the mental condition and the sight did not become normal till three or four weeks after the iodoform had been discontinued. Dimness of vision was complained of in another case, when taking three grains three times a day; while another patient took five grains every four hours for several months, and did not manifest any toxic symptoms. Vomiting and eructations occurred occasionally in one or two cases, when only one or two grains were taken. Albuminuria was observed in one case of rapid phthisis, in which no albumen was found in the urine prior to iodoform being given. This patient subsequently could not take grain doses without a feeling of nausea and vomiting. In several cases, slight indications of iodism were noticed with one-grain doses; and in some cases, when two-grain doses were given, the drug had to be suspended for a day or two, owing to its having produced headache or gastric irritation. The physiological limit of dose seems to vary much in different persons; the dose is usually increased from time to time, from one grain up to five, or even six grains, five times daily. FRANCIS HAWKINS.

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* Abstract of a Paper read by Dr. Shingleton Smith before the International Medical Congress in Copenhagen, 1884.

ARTICLE 5499.

MICHAEL ON THE TREATMENT OF WHOOPING-COUGH.

IN an address before the Medical Society of Hamburg, Dr. Michael (*Deutsche Med. Wochensch.*, No. 5, 1886) spoke of that treatment of whooping-cough which selects the mucous membrane of the nose for the point of attack in combating the disease. After alluding to Hack's theory (*Ueber eine Operative Behandlung*, &c., Wiesbaden, 1884), that whooping-cough is one of the reflex neuroses of the nose, he gratefully acknowledged the assistance of several medical men in collecting fifty cases in which the treatment hinted at above was adopted.

It has been generally assumed that whooping-cough must be allowed to run its course, any medicine that is given being intended merely to alleviate suffering. This, too, was Dr. Michael's opinion; until lately he was impressed with the satisfactory, though by no means perfectly successful, results of the new method of treatment. Rejecting the galvanic cautery as too violent a measure, particularly for little children, and the nose-douche as a source of danger to the middle ear, Dr. Michael adopts insufflation of certain powders. Such powders are hydrochlorate of quinine, quinine with benzoic acid in the proportion of three to one, quinine with bromide of potassium (one to four), powdered gum benzoin, tannin, boracic acid, salicylic acid in the well-known powder for the feet, iodoform, cucaine, bicarbonate of soda, and pulverised marble. The last was tried with a view to test the merely mechanical effect of an indifferent powder, and the results proved that the purely mechanical factor is of vast importance. Of the others, quinine and powdered benzoin were the most effectual; then followed tannin and pulverised marble. Whooping-cough, more than most other diseases, affords a better opportunity of testing the therapeutic results, in as far as its intensity can be expressed by the frequency of the attacks. The treatment was confined to the spasmodic stage, which is easily recognised by the peculiar sound emitted by the patient. Observations were taken every twenty-four hours. As the number of attacks nearly always rapidly increases in the first few days, and after that remains at the same height for some weeks, after which it slowly falls again, it is easy to observe the therapeutic effects of the different medicines in the various stages of the disease.

Of fifty cases, forty-three (*i.e.* 86 per cent.) showed during the first few days of treatment a very material diminution in the number of attacks: eight (16 per cent.) being completely cured in three days, six (12 per cent.) in a week, six (12 per cent.) in four weeks, the last stages of the disease being of a very mild type as compared with the first stage. In some cases, complications retarded recovery or caused death. In nearly all the forty-three cases, the effect of the insufflation of the powder was most energetic the first two or three times. When the disease was of quite recent origin (only a few days old) the results were most gratifying; whilst, even in cases which had already lasted four weeks or more, recovery was safe and rapid. Only nineteen of these cases were treated until complete recovery, and in them the duration of the disease was a week. The average duration of all the cases would naturally be longer.

After warning against the danger of bad weather, and particularly of damp feet, Dr. Michael gives three cases as particularly striking.

1. A child, 10 months old, had had the cough for six weeks, with thirty attacks daily for the last three weeks. Complete recovery ensued in six days, as corroborated a fortnight later.

2. A girl, 4 years old, had had the cough four months with an average of ten very violent attacks daily. She had been unsuccessfully treated with considerable doses of morphine. Recovery followed after six insufflations.

3. A girl, 12 years of age, could not bear insufflation, as it caused headache and sickness. Dr. Michael then tried the snuffing up of a salicylic solution, but neither could the child bear this. Eventually, insufflation of tannin considerably alleviated the cough.

Dr. Michael adds some practical and theoretical remarks.

Practical.—Powdered benzoin is not only the most effectual powder, but also the most agreeable to the patient. A coughing fit is generally caused only the first few times that the powder is blown in, perhaps as much by nervousness as anything else. This can be avoided by blowing in during an expiration of the patient. In the case of very young children, or in very violent attacks, quinine may be preferable as being milder. Dr. Michael's cases were nearly all among the lowest classes of the population, and not well cared for at home; hence the results of the treatment would be more favourable in hospitals and among the better class of private houses. In the former class, he encourages the patients to go out rather than remain in their damp rooms. Otherwise, he advocates change of rooms with an equable temperature. The insufflation is made every twenty-four hours, with a simple glass tube or a 'powder-blower' (Pulverbläser), which any-one can use. To repeat it during the day has proved to be useless. In obstinate cases, some other method may be combined with insufflation—*e.g.* Letzerich's quinine treatment, or the internal application of bromide of potassium.

Theoretical.—In whooping-cough, the proper seat of irritation is thus evidently the mucous membrane of the nose. The cause of the irritation is doubtless parasitic. Letzerich has described the parasite he considers to be the conveyer of the poison; but Dr. Michael is not able at present to form an opinion as to the accuracy of this supposition. He disagrees with Goldschmidt's view that the flowing down of the secretion into the pharynx causes each attack, since, just when the spasmodic stage is at its height, there is no secretion at all in the nose, whilst in the first stage and the later catarrhal stages there is great secretion, but no spasmodic cough. He allows that the pharynx, and to a greater degree the larynx, are during whooping-cough in a pronounced hyperæmic condition, and that the fits of coughing may be stopped by pressure or irritation of that part; but he does not consider it right therefore to conclude that the seat of the disease is to be sought there; for, in every spasmodic cough, especially the purely nervous chorea laryngis, one finds secondary reddening of the larynx and strong reflex action of the same. Though the insufflation of so irritant a powder as benzoin does not always allay a fit of whooping-cough, Dr. Michael is convinced that the cough is a reflex neurosis of the nose, distinguished from the other neuroses of the trigeminus nerve in this way, that in this cough the mucous membrane of the nose does not react on any mechanical or chemical irritation, but only on the specific irritation of the whooping-cough poison. He finds it very remarkable that in two of his cases, in which the nose was specially affected and violent sneezing took the place of the cough, his treatment was unsuccessful. In the first place all the powder was sneezed out again, and further, he thinks, it may be assumed that the local poisoning was too great to be influenced by the powder. The effect of the powder he pronounces to be both mechanical and chemical.

All the other methods now in favour seem to Dr. Michael to support the theory that the mucous membrane of the nose is the seat of the disease. Narcotics and bromide of potassium reduce the reflex excitability; the internal use of quinine is useful in the most different neuroses; the inhaling of common gas, petroleum, or carbolic acid, &c., affects the mucous membrane of the nose; the local treatment of the mucous membrane of the pharynx and larynx with cucaine or astringents reduces the reflex excitability. Dr. Michael has been informed that thirty years ago a successful popular remedy in and about Hamburg was to stuff the nostrils full of ordinary snuff. JOHN ELLIOTT.

ARTICLE 5500.

BROWN ON DOUBLE CONGENITAL DISPLACEMENT OF THE HIP.

DR. BUCKMINSTER BROWN, of Boston, gives an interesting description of a case of this serious congenital affection, successfully treated by mechanical extension. After referring to the unsatisfactory results of the treatment hitherto adopted, Dr. Brown describes in detail the plan which he pursued in the case of a girl who was brought to him in Boston in December 1882. The case presented the ordinary characteristics of the deformity.

The lordosis was very marked, and the child walked with the usual waddling gait. By forced extension in the recumbent posture, the femora could be reduced to their normal position; but, upon being released, they were gradually drawn up again towards the crests of the ilia.

After poulticing the pelvis and hips for a week, with the view of possibly relaxing the muscles, the mechanical apparatus was applied. This consisted in a firm leather belt buckled round the hips, secured by perineal bands, and attached by four straps to the head of the bedstead. This formed the counter-extension.

The direct extension was produced by weights and pulley appliances, attached by bands to the ankles and above the knees. The traction was alternated between the ankles and the thighs, relieving the patient from the irksomeness and pain of a constant pressure upon one part. Three pounds' weight was applied to each side at first, and was gradually increased. In twelve days the relaxation of the muscles allowed the femora to be easily placed every day in their normal position; but they were drawn up again at first by muscular action. In about two months from the commencement of the treatment, the tendency to displacement was greatly diminished, and soon ceased. The thighs were now flexed to nearly right angles with the body, and the knees were then separated to probably 12 inches or more, and secured to the bedstead on each side, and the feet to the opposite side. 'The heads of the thigh-bones were thus brought to bear forcibly on the pelvis at the points selected, trusting that absorption might be produced as a commencement of the desired depression.' This position could only be tolerated for two or three hours each day. It was also attempted to obliterate the sacs in which the bones had previously played, by pressure applied under the pelvic belt.

Extension in one or other direction was always kept up, and subsequently passive movements were daily practised for four hours, to work the head of each femur (two hours each) against that part of the pelvis where it was desired to retain the bones eventually. This was carried out for five months, lessening gradually the time each day.

In July 1883, eighteen months from the commencement of treatment, the result was first tested; and although considerable manual pressure-force was used, the bones did not leave their new situation.

Dr. Brown considered that an acetabular ridge was 'unquestionably formed.' In another six months the child was allowed to get up, and move about on a go-cart, which gave support to the perinæum, with crutches to support the shoulders. The degree of support was gradually lessened, till in June 1884 the patient was sent home cured. Her manner of walking was not perfect at first, but was found to be so in May 1885, when she could walk and run in a natural manner. During her long confinement, the child retained her health and spirits.

The reader is referred for further particulars of this very interesting case to Dr. Buckminster Brown's publication, which is illustrated by explanatory photographs. Noble Smith.

Article 5501.

SANSOM ON MODERN REMEDIES IN HEART-DISEASE.

In the *Lancet*, March 1886, pp. 535, 581, and 629, Dr. Sansom considers the value of caffeine and convallaria majalis in cases of mitral disease.

The author first treats of cases of mitral regurgitation. The drug by which most of these cases are treated is digitalis. Frequently, the careful administration of digitalis is followed by such good results that it is unnecessary to seek for another agent. In the later stages of the disease, however, the failure of digitalis is sometimes most marked; its power of increasing the force of the left ventricle seems to be lost, and it fails to increase the outflow of urine. It is then that other agents must be tried, and the choice falls first upon caffeine.

This is a highly nitrogenised crystalline principle, occurring in colourless silky needles, obtained from coffee, tea, or guarana, &c. A large number of observers have testified to the beneficial effects of the drug in various forms of cardiac disease, where it is said to have a distinct diuretic action; but in health it does not produce any change in the quantity of water or urea excreted. Riegel, of Giessen, states that caffeine produces the best effects of digitalis upon the circulation; that while it is more rapid in its action it is not cumulative, and may be administered to the most feeble person. It can also be employed in cardiac cases where the kidneys are affected. Pure caffeine is soluble in from 80 to 100 parts of water. The citrate is freely soluble. The author employs this salt, and gives doses of from three to five grains from once to thrice a day. The pure caffeine may be used dissolved in solutions of benzoate or salicylate of sodium.

In some cases of mitral regurgitation in which caffeine citrate was given, the author noticed a marked increase in the diurnal amount of urine. The influence of the drug seems to last as a diuretic for some time after it is discontinued. In some it was also noticed that caffeine reduced the pulse-rate and the respiration, increasing the force of the heart whilst it lowered the respiration. It also reduces the temperature. Caffeine fails to be of benefit in some cases, especially in pericarditis, even though it manifests a diuretic action.

The author next considers the value of convallaria majalis, and considers that it is a drug which may be occasionally used with advantage in mitral regurgitation. Its use should not be continued for more than a week at a time without interruption, and, in cases of dropsy, it should be given in conjunction with caffeine. For general and systematic administration this drug, except at intervals, does not supplant digitalis.

The author concludes his paper with an inquiry as to the efficiency of special drugs in promoting compensatory action in mitral stenosis. Digitalis is not a satisfactory agent in these cases; it may do good in some if given now and then for a few days, but it must be used with great caution. Convallaria majalis is a good diuretic in mitral stenosis, but its administration should be suspended at intervals. Its diuretic effects are more pronounced in cases of the obstructive than in the regurgitant lesion. With regard to caffeine, its use is most beneficial in mitral regurgitation where there is much dropsy, but in mitral stenosis it is not so valuable as convallaria majalis. Richard Neale, M.D.

Article 5502.

HARRISON ON THE PALLIATIVE AND MEDICAL TREATMENT OF THE OBSTRUCTING PROSTATE.

In the *Lancet*, January 1886, p. 101, Mr. Reginald Harrison contributes an article detailing his views with regard to the preventive and palliative treatment of prostatic obstruction. The author points out how frequently we find large prostates in persons who suffer little inconvenience; the reason of this being that the growth in no way interferes with the outlet from the bladder. When there is any obstruction to the outlet, its nature is extremely limited, and in many cases it is easily remedied. Undoubted success has frequently followed the practice of Mercier in making a linear incision through the prostatic bar, and recently Gouley has devised an instrument which punches out the small obstructing piece of the prostate. If the obstruction to the flow of urine have existed for some time, the muscular power of the bladder becomes impaired, and after a time all power of expulsion is lost. The chief aim in treatment should be, therefore, to benefit these cases in the early stage, before the bladder becomes implicated.

The following case illustrates the point in question. A gentleman, aged 60, consulted the author on account of an irritable bladder. There was unnatural frequency of micturition, and the urine only oozed away from the penis. On examination, it was found that there was considerable obstruction within the prostatic urethra, together with loss of power in the bladder. A soft catheter was introduced into the bladder daily for about three months, at the end of which time the patient was practically well. In those cases of prostatic obstruction where a catheter is useless in giving relief, it is necessary to proceed to operative measures. The author illustrates briefly four different ways: 1. removal of more or less of the obstructing prostate by an incision from the perinæum; 2. perineal incision and section of the bar, and the subsequent use of a proper drainage-tube; 3. the permanent retention of a perineal tube with a suitable tap; 4. prostatic puncture, without incision, and the retention of a suitable cannula.

Richard Neale, M.D.

ARTICLE 5503.

CHEADLE ON THE TREATMENT OF CHOREA.

IN the *Practitioner*, February 1886, Dr. Cheadle contributes a paper on 'The Influence of Treatment on Chorea, with Special Relation to the Full Use of Arsenic and its Results.' Many physicians do not believe that any drug has an influence upon this disease, but that rest and quiet nursing are all that is needed. However, many cases of chorea that are untreated run a protracted course, whereas the author says that he has never met with a case of true chorea in childhood running a protracted course whilst under treatment. When a choreic patient is taken into hospital, much good will result from the enforced rest and appropriate diet; but after a time the improvement does not continue, and drugs must be employed. After trying various remedies, Dr. Cheadle states that arsenic is the only drug which appears to possess any decided power to shorten the duration of the disease, the average of which is put at twelve weeks by Henoch. The average duration of 167 cases under treatment by the author was 30 days. Notes are given of three severe cases, in which arsenic was given with marked success. The dose at the commencement is generally three to five minims of liquor arsenicalis in water, or in two drachms of steel wine, twice or thrice a day, with an increase of one minim every two or three days, until ten or twelve minims are reached. If symptoms of gastric disturbance or other toxic effects appear, the arsenic is omitted for two or three days, a calomel purge given, and the medicine resumed in somewhat smaller doses, as soon as the disturbance has subsided. The drug must not be discontinued, but must be pushed in the fullest doses which can be tolerated, until all choreic symptoms have disappeared. Dr. Cheadle draws special attention to one effect of the continued administration of arsenic, which is not commonly recognised—viz., *arsenical bronzing*. The patient looks as if he had Addison's disease. The author has met with it in four cases, and in all of them the discoloration disappeared within six months after discontinuing the drug. The treatment of chorea does not end with the administration of arsenic. It is often necessary to give sedatives when the jactitations are severe, and the regulation of the bowels is of supreme importance. Anæmia must be remedied by the use of iron; whilst strict hygienic measures should be carefully carried out all through the treatment of the case.

RICHARD NEALE, M.D.

ARTICLE 5504.

CHAMPNEYS ON THE DEVELOPMENT OF MAMMARY FUNCTIONS BY THE SKIN OF LYING-IN WOMEN.

AFTER referring to numerical abnormalities of the breasts and nipples already described,[*] Dr. Champneys noted 30 cases of milk-producing tracts of integument, occurring between October 1882 and November 1884 in the General Lying-in Hospital. The right side was affected in 14, the left in 1, both in 15. The lumps in the right side predominated both in frequency and in size. The author described the situation and characters of the bodies referred to, and their course of development; during lying-in, this usually coincided generally with that of the breasts. The secretion was of three principal kinds; (*a*) granular *débris*, like the secretion of sebaceous follicles, (*b*) colostrum, (*c*) milk. It was expressed from the situation of the sebaceous follicles, as marked by the situation of the hairs. The whole surface of the lump produced secretion; there was no centralisation. The cases were seen by numerous observers. Three typical cases were described at length. Instances of the following conditions were then described by way of contrast: 1. extension of the mammæ into the axillary folds; 2. axillary mammæ with axillary nipples, pores, or ducts; 3. supernumerary nipples without special gland-substance. In this series was included one case having a typical 'axillary lump' in the skin of the right axilla, and also three small 'axillary lumps' on the right side, and three rudimentary nipples, two on the right side and one on the left. (*See* 'Accessory Mammary Glands and Nipples,' LONDON MEDICAL RECORD, August 1885, p. 319.)

The cases of 'axillary lumps' appeared to be now described for the first time. They seemed to prove that, in lying-in women, the sebaceous follicles of the skin were capable of producing true mammary secretion. The transition from granular material, through colostrum, to true milk, was distinct and unmistakable. They confirmed the opinion that the breast was a highly specialised aggregation of highly specialised sebaceous follicles. The least specialised form was that here described, where the skin was merely thickened, and the sebaceous glands might produce true mammary secretions. The next form was that where there was an aggregation of the ducts, which open by one or more external pores. The highest rudimentary form was where a nipple or more were superadded to the last variety. It was also well known that nipples might be developed independently. It was far from improbable that these 'axillary lumps' might share the pathological affections of the breast, and even be the seat of abscess. Reference was made to some affections described by Verneuil as 'Hidrosadénite,' and believed by him to be situated in the sweat-glands. A case of 'axillary lump,' painful during menstruation, was described.

In the discussion which followed the reading of this paper, the reporter observed that Dr. Champneys's monograph proved that supernumerary nipples and mammary glands depended upon pathological or histological conditions. They had little or no morphological significance. A misinterpretation of Darwinism had led some authorities to consider supernumerary nipples as reversions to an older type. If that theory were true, then, supposing that the human species were descended from a hedgehog, the supernumerary nipples should occasionally be found, in considerable numbers, on the abdominal integument. Yet abdominal nipples were almost unknown in the human species. If any other female animal were considered, it would be found that the nipples and mammæ were not developed in the places where supernumerary nipples were generally found in woman. On the other hand, these abnormal structures had been found on the buttock in woman and on other parts, where they never lay in normally formed inferior mammals. They were, in fact, not relics of older types, but, as Dr. Champneys had demonstrated, the result of differentiation of sebaceous glands.—Dr. Creighton thought that these observations contained the germ of a great discovery. The question of aberrant portions of the breast in the axilla was a very open one. Such were not mammary tumours at all, but were developed from the skin-glands. It was purely hypothetical to suppose that the secretion was from the sebaceous glands. He had, some years previously, described the glandular stratum sometimes found at the apex of the axilla; it was identical with the glands found in the skin of the dog, which contained an albuminous secretion and granular cells. He believed this stratum was the origin of the 'axillary lumps' described by Dr. Champneys. He also referred to the gland found in the Australian *Ornithorhynchus*, which seemed to be of identical structure. The products from these glands in the skin and in the breast of the dog could not be distinguished by the eye alone. The test would be the presence or absence of plain muscular fibres in connection with the axillary glands.—Dr. John Williams mentioned a case where pain in the axilla was felt during menstruation. Knowing the pain and fulness which was felt in the breast, he had been interested to see if there were any change of sensation in regard to the axillary glands. In some cases he had known pain so complained of, but this might have been due to extension of the mammary glands.—Mr. Bennett said that, in the case of a young woman after her first pregnancy, after lactation was over, a lump had been noticed at the apex of one axilla, and this axilla was noticed to perspire more freely during menstruation. The lump felt like a fatty tumour, and, after removal, proved to be an encapsuled lipoma.—Dr. Champneys, in reply, regretted that he had not been able to exhibit a patient, but the secretion rapidly declined after delivery. As to the cases of extension of the mammæ in the axilla, he thought there was no difficulty in recognising such cases; the skin could be freely pinched up over them, and no secretion could be expressed from them. These served to distinguish them from the axillary lumps. He thought that Dr. Creighton's explanation with regard to the glandular layer in the axilla was probably the correct one; his naming the sebaceous follicles was purely hypothetical. In Mr. Bennett's case, it was not clear that it was of the same nature as those he had described; his axillary lumps were not stationary. It would have been desirable to have had a microscopic examination.

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[*] Royal Medical and Chirurgical Society, April 27, 1886. (*Brit. Med. Jour.*, May 1, 1886, p. 825.)

ALBAN DORAN.

ARTICLE 5505.

LECORCHÉ ON DIABETIC COMA AND ACETONÆMIA.

M. LECORCHÉ (*Archives de Neurologie*, January 1886) seeks to give a full exposition of the various aspects of diabetic coma, and the diverse theories that have been put forward to account for it. The subject, however, is dealt with chiefly from a clinical point of view; and experiments on the lower animals are only very lightly touched on.

The first question that arises is the pathogenesis of this symptom in diabetes. According to the author, there are two radically different forms of diabetic coma, each having characteristic features of its own, and differing widely from the other in pathological relations. The first form is dependent on some material and appreciable change in the tissues; the second form is an auto-intoxication, due probably to the formation and absorption of acetone.

In the first group of cases, where the symptoms depend upon an appreciable lesion, the lesion is not always easily made out, and probably is not always the same. The symptoms of this variety are simply those of gradually increasing weakness, deepening into coma. There is an absence of excitement, of chloroformic odour in the breath, and of the reactions of acetone in the urine. The heart especially fails in strength. That these symptoms may be attributed to diabetic coma, it is necessary to exclude uræmia. The other coarse lesions of definite ailments must also be excluded, such as hemiplegia. Atrophy of the cardiac muscle has been found by several observers, including the author. This interpretation, though satisfactory in many instances, is not applicable to all. The condition of the blood in many other instances appears to explain the symptoms. The observations of Hamilton and Sanders are valuable in this connection. These authors found in three cases of diabetic coma, that the blood contained an excess of fatty matters. When it was left to stand for a while, it separated into two layers, the lower formed of the blood-corpuscles, the upper consisting of a white emulsion of oil-globules. The capillaries of the lungs were found filled with fatty masses, which were rendered still more evident by staining with osmic acid. These fatty emboli were found, though to a less extent, in the kidneys and other organs. Voit and Hertz found a lipæmic state of blood in two other cases of diabetic coma. Starr alleges even that he has observed fatty emboli during life in the retinal vessels by means of the ophthalmoscope. These observations, however, are not sufficiently numerous to receive unhesitating assent; and, indeed, there are some facts of a contrary tendency. Frerichs, for example, has never found these fatty emboli; and, in the cases recorded by Sanders and Hamilton, it is expressly stated that the blood exhaled a strong odour of acetic acid. An excess of fat being a common circumstance in diabetics, is it not probable that the separation of the fat might be due to the acid transformation of the blood after death? In three cases of acetonæmic coma, Abeles discovered an accumulation of glycogen in the cerebral substance. Glucose was also found in the liver, kidneys, and pancreas, but not in the muscles. Several authors agree in stating that the cerebral substance in the normal state does not contain glycogen. In two other diabetics, one of whom died of phthisis, the other of exhaustion from boils, Abeles was unable to detect glycogen either in the brain or in other organs. He does not discuss the part that may be played by the glycogen in the production of the nervous phenomena. He regards the accumulation of it in the brain and other organs as part of the essence of diabetes; but that it was found in the patients who died of acetonæmic coma, and not in the patients that died of phthisis and boils, he considers due to the circumstance that in the latter cases death took place slowly by exhaustion.

The second group of cases, that is to say, true diabetic or toxic coma, is next considered. The clinical symptoms fall into four principal divisions—namely, 1, the special reaction of the urine and the odour of the breath; 2, gastro-intestinal troubles; 3, respiratory troubles; 4, nervous troubles. These symptoms are found differently united in different cases. Touching the first group of symptoms, the odour of the breath has been compared to that of chloroform, or of an apple too ripe. The odour is really that of acetone. The urine may have the same smell, but the presence of acetone is more satisfactorily shown by one of the ordinary tests. Tincture of perchloride of iron gives, with urine containing acetone, a colour varying from light red to the dark red of Burgundy wine, according to the quantity of acetone present. Le Nobel's method is perhaps more satisfactory. Some strong solution of ammonia is added to the urine, and then a few drops of a solution of nitro-prussiate of soda (10 centigrammes in 15 grammes of water). A violet colour is then slowly developed.

The gastro-intestinal troubles generally mark the commencement of the period of intoxication, and consist of loss of appetite, nausea, vomiting, and diarrhœa, with or without gastric pain. They occur so commonly that, according to Kaulich, a certain degree of gastric catarrh is necessary for the production of acetone. According to M. Lecorché, however, these symptoms are due merely to an attempt at the elimination of the poison by the gastric mucous membrane, the mechanism probably being much the same as the gastro-intestinal disturbance in uræmia. In any case, dyspepsia is a common symptom amongst diabetics, and it does not deserve the title of acetonæmic, unless the breath exhale an ethereal odour or the urine present the reaction of acetone.

The respiratory troubles in the toxic coma of diabetes present a strong resemblance to those of uræmia. Dyspnœa is the most characteristic symptom. Respiration is performed with singular violence, which contrasts markedly with the general exhaustion of the patient, and gives him the appearance of suffering from lack of air, auscultation revealing at the same time that the vesicular murmur is normal. The heart's action, too, is regular and only slightly accelerated. The dyspnœa sometimes comes on suddenly, and it may terminate fatally. At times, it is accompanied by acute pain in the hypochondriac region, or by intercostal neuralgia.

The derangements of the nervous system, however, are the most important. Two orders of facts have to be distinguished; symptoms of excitement which mark the commencement of the poisoning, and symptoms of depression which usher in the fatal termination. The first action of acetone on the nervous system, like the first action of chloroform, alcohol, or ether, is one of excitation. The symptoms of excitement vary a good deal in different cases, and no doubt depend much on individual idiosyncrasy. In some cases, there may be abnormal gaiety or vivacity, and excessive irritability. Sometimes there is incoherence of thought. In other cases there are giddiness, ringing in the ears, headache, and neuralgia. Febrile movement of a very slight degree of intensity may be present. This stage of excitement is usually short, and may pass unperceived, a medical man being called in only when more alarming symptoms show themselves. The stage of depression then comes on to finish the scene. The patient falls into a state of complete prostration. An irresistible torpor, somnolence, and coma gradually come on, and become more profound. The extremities are cold; the central temperature falls to 36° or 35° C. or even lower; the pulse remains constantly accelerated; the face is pale and immobile; the pupils are dilated; and the patient gradually passes away without convulsions, making a deep inspiration from time to time.

In regard to the varieties of acetonæmia, three varieties are mentioned, namely, acute, chronic, and intermittent. Other varieties, depending on the prominent symptoms, such as gastro-intestinal, respiratory, and nervous, have not a sufficiently distinctive course to warrant the several epithets.

The pathology of diabetic toxic coma is explained according to three chief theories. It may be due to acetone; to a body nearly related to acetone, an acid ethyl, or acetylacetic acid; or, lastly, to the whole series of bodies intermediate between sugar, acetic acid, and acetone. This last opinion, which was put forward by Frerichs, does not appear tenable to M. Lecorché. The manner in which the symptoms come on, and their likeness in different cases, point rather to the action of some definite body, than to poisoning by a series of bodies which are metamorphosed and destroyed as they are formed. To decide, however, whether the toxic agent is acetone or a kindred body, is not so easy, and, in fact, does not at present appear possible. Symptoms of diabetic coma have been produced in animals by acetone, as they have been produced also by ethyldiacetic acid or ether. The fact, however, that acetone is found in diabetic patients is not disputed. Lambl found it in the stomach and blood; Mosler detected it in the saliva; and Berti extracted it by distillation from the heart, liver, and brain. How it is formed may be difficult to determine; but the fact of its formation is beyond question. An objection raised against the acetone view is, that the substance is not sufficiently poisonous to produce the symptoms. When acetone is given experimentally, for example, large doses have to be given before toxic effects are produced. Kussmaul was obliged to give 5 or 6 grammes subcutaneously and 20 grammes by inhalation to cause, not death, but intoxication and drowsiness in young dogs; and Gennes found that from 150 to 180 drops, hypodermically administered, were necessary to determine the death of adult guinea-pigs. Ebstein attempts to meet this objection by incriminating the kidneys. Owing to the destruction of the renal epithelium, he says, the acetone is no longer excreted by the kidneys, and it consequently accumulates in the body. This doctrine, however, will not bear examination. The kidneys are not the sole paths of excretion. Elimination by the lungs is not interfered with. According to M. Lecorché, the explanation of the toxic action of small quantities of acetone is to be found in one of two other circumstances—in individual idiosyncrasy, or in the weakened resistance of the patient. The power of these factors is seen in cases of administration of chloroform. Some persons remain for hours under chloroform without ill effect; a whiff of chloroform kills others. Another consideration is to be borne in mind. If 8 or 10 grammes be injected under the skin, the drug is absorbed, and then eliminated more or less rapidly. It thus acts at a single stroke, so to speak. In the acetonæmia of diabetes, on the contrary, the organism is under the continued action of the poison. It is eliminated by the lungs and kidneys, but to no purpose if it is constantly reproduced in the digestive tube and in the blood. According to the author, moreover, there is no reason that renders it probable that any other body than acetone is the toxic agent in diabetic coma.

Acetonæmia sometimes occurs during the course, or at the termination of, some intercurrent affections, and exhausts the patient. It often shows itself, for example, at the end of lobar pneumonia, that attacks worn-out diabetics, and then renders the termination almost necessarily fatal. In two of M. Lecorché's patients, acetonæmia was developed consecutively to albuminuria. Although the connection between these two states is neither necessary nor even frequent, it is quite possible that nephritis would favour the development of acetonæmia, by altering the principal channels for the excretion of acetone.

The influence of treatment is a question of much importance. Pavy states that severe diabetes, not treated, terminates in pulmonary phthisis; treated, it terminates in acetonæmia. Lasègue supports this view; but probably, though true within certain limits, it is too absolute. Care must be taken not to make the sugar disappear too quickly from the urine. The rapid suppression of the glycosuria exposes the patient not only to acetonæmia, but to other troubles as well. At any rate, it is certain that the commencement of acetonæmia coincides nearly always with the diminution of sugar in the urine. Special modes of treatment have been charged as being particularly liable to bring about this effect. A meat-diet has, above all, been incriminated. Jænicke, in the service of Biermer, has seen acetonæmia develop in patients confined to an exclusively meat-diet, and disappear with the suppression of this *régime.* The same observation has been made by Ebstein, who thinks that the meat-diet acts by favouring the necrosis of the renal tubuli, the true cause, according to him, of acetonæmic intoxication. Facts recorded by Hilton Fagge and by Taylor, might make it seem probable that opium may help in the development of acetonæmia. M. Lecorché has given opium ordinarily in diabetics, and has never observed acetonæmia in these circumstances. No doubt, opiates are contra-indicated when acetonæmia has already declared itself. In such cases, opiates can only hasten the torpor and the somnolence. Their narcotic influence is added to the toxic effects of the acetone, but they do not provoke it. WILLIAM R. HUGGARD, M.D.

ARTICLE 5506.

GLORIEUX ON THE CONJUNCTIVITIS PRODUCED BY ATROPINE.*

It is now generally admitted that the conjunctivitis which occurs from the instillation of atropine is due to the action of the drug itself, and not to the impurity of the solution. There is no doubt that inflammation of the conjunctiva can be excited either by acidity of the solution, or by the presence in it of microbes, but both these forms are distinct from the true atropine conjunctivitis.

The literature of the subject throws no light upon the manner in which atropine causes inflammation; and the following experiments were performed by the author with the view of ascertaining this.

There are three principal methods in vogue of explaining the physiological mechanism of inflammation: the cellular theory of Virchow, which assumes that the cells of the tissues proliferate, engorgement of the blood-vessels taking place in order to supply the necessary nutritive material; Cohnheim's theory, which considers that the initial change consists in alterations in the epithelial lining of the blood-vessels, and that this leads to increased transudation and diapedesis of corpuscles; and thirdly, that which considers vaso-motor paralysis of blood-vessels to be the starting-point of inflammation.

Since atropine in large doses causes vascular dilatation by paralysing the muscular walls of the blood-vessels, if the vaso-motor theory of inflammation were correct, we should expect it to cause inflammation in large doses.

Experiments on the Web of a Frog's Foot.—A ligature was applied a little above the tibio-tarsal articulation of both limbs, with sufficient firmness to arrest all circulation. The right extremity was then fixed in a tube containing a 1 per cent. solution of atropine, and the left placed in water. Precautions were taken to ensure purity in the solutions used, and to place the limbs in identical circumstances, except for the presence of the atropine. After twenty-four hours the ligatures were removed, and the webs of the two feet examined. The hyperæmia in the right was greater and more lasting than in the left, while in the former there were inflammatory changes. These were indicated by irregularities in the circulation, which was at some points retarded, at others accelerated; there being present numerous colourless corpuscles lining the walls of the veins, or being carried along in the blood-current. None were, however, seen external to the vessels. The pigment-cells presented characteristic inflammatory changes; namely, their processes were retracted, and the pigment condensed into a rounded mass in the centre. These changes persisted for four or five days, and then there was a gradual return to the normal condition.

A similar experiment was then made with a 2 per cent. solution of atropine, and unmistakable signs of inflammation were visible within eight hours. In neither experiment did the limb which was in the water present changes at all comparable to those of the other. With a 4 per cent. solution, better results were obtained in six hours, and in one instance in three hours. The inflammation was more intense and more lasting; often, an hour after the removal of the ligature, the field of the microscope would be seen crowded with leucocytes, and the next day the capillaries would be completely obstructed by them. Œdema of the extremity was rarely seen.

A 5 per cent. solution was then employed, the limb being kept in it only one hour. As soon as the ligatures were removed the circulation was re-established in both limbs; the right (atropinised) limb became more injected than the other; the circulation was very rapid, and the processes of the pigment-cells were retracted in both. Two hours after the removal of the ligature, the circulation in the atropinised limb was very irregular, rapid in some places, slow and difficult in others; and the vessels, especially the veins, were gorged with blood. There was an enormous number of leucocytes, the greater number in active movement. The circulation in the other limb was almost normal. The changes persisted for five days, from which time there was a gradual subsidence to the normal condition.

There was a complete absence of inflammatory œdema in all the experiments; it had, however, previously been pointed out by Friedländer (*Microscopische Technik*, p. 75) that, owing to the construction of the web of the frog's foot, no swelling occurs even after the most severe irritation.

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* GLORIEUX, DR.—On the Conjunctivitis Produced by Atropine. (*Annales d'Oculist'*, No. xciv., p. 201.)

Experiments on the Ears of Rabbits.—In these experiments, the two ears were simultaneously ligatured, and a solution of atropine then injected into one of them, while an equal quantity of water was injected into the other. The ligatures were left on for periods varying from three to five hours; on their removal, both ears became much injected, but the atropinised one much more so than the other. The latter was usually normal by the next day, while the atropinised one continued red and swollen, and its temperature sensibly raised. The atropine appeared to act as a complete local anæsthetic. The amount of the atropine injected was varied, and the results showed that the intensity of the inflammation produced was directly proportionate to the dose.

For the atropine to induce vaso-motor paralysis, it is necessary that the channels of elimination should be temporarily obstructed. When no ligature was used, it was only with the greatest difficulty that, after an interval of an hour, any difference could be discovered between the two ears.

The author confirms the fact, mentioned by others, that rabbits are extremely insusceptible to the toxic effect of atropine; this is probably due to the great rapidity with which it is eliminated in the urine.

These experiments seem to confirm the opinion of Professor Venneman (*Revue Méd. de Louvain*) on the nature of atropine conjunctivitis. 'It is this muscular paralysis which causes the follicular conjunctivitis which often follows the abuse of atropine, and disappears as soon as the drug is discontinued. . . . To account for the predisposition to this affection which some patients show, we must assume the existence of a weakness of the smooth muscular fibres, which renders them unduly sensitive to the poison, and, in fact, we generally find in these cases evidence of general muscular weakness.'

Astringents, by constricting the tissues and the vessels, are likely to have a favourable effect; and the author suggests that eserine might be beneficial, but it does not seem to have occurred to him that, in most cases in which atropine is prescribed, eserine would be inadmissible.

W. ADAMS FROST.

ARTICLE 5507.

PISCIDIA ERYTHRINA (JAMAICA DOG-WOOD).

Der Fortschritt (Feb. 5, 1886, No. 3) reproduces from the *Progrès Pharmaceutique* a paper on this plant and its properties.

The piscidia erythrina has only recently been introduced as a remedy. It was first analysed in 1881 by J. Ott, of Philadelphia, and by Nagle, who pointed out its narcotic action on certain animals, although Hamilton, of Plymouth (U.S.A.), had already, in 1844, recognised its anodyne properties. Ford in 1880 proposed it as a remedy in neuralgia. Ott's and Nagle's investigations were rapidly followed by numerous experiments; and Firth, James, Scott, MacGrotz, Sifert, of Berlin, and Vanlair, of Liège, published their observations on the therapeutic qualities of the piscidia. Landowsky in 1883 first introduced it into France as an anodyne and narcotic. Huchard prescribed it combined with viburnum prunifolium;[*] and the author of this paper, assisted by Dr. Legoy (De Houilles), instituted in the laboratory and in the wards of the Hôpital Cochin a great number of experiments on its physiological and therapeutic properties.

The piscidia erythrina, a shrub of the natural order Fabiaceæ, is a native of South America and the West Indies, especially of Martinique. It takes its name from the stupefying effects of its bark on fishes, which are analogous to those of the Levant-nut,[*] and from the bright red colour of its blossoms.[†] The bark is known in America by the names 'Jamaica dog-wood' and 'Bois de chien.'

The bark of the root, which is exclusively employed, contains, according to Carette's analysis, a resin, a kind of turpentine, fecula, an ammonia compound, and an alkaloid (picrotoxine), which Bruel and Tanret first succeeded in extracting from the root. This alkaloid, however, is not constant, and its presence in larger or lesser proportions or its absolute absence depends upon the locality where the plant has been found. This materially influences the general therapeutic value of the dog-wood, and the place whence the drug had been procured must be ascertained and specified in the prescription. There is another point which ought to be borne in mind—viz., that the physiological action of the piscidia is different in warm- and in cold-blooded animals. The former will be but feebly acted upon, even by large doses, whilst in the latter, after a few seconds, the most violent effects will become manifest. On experimenting with piscidia on a frog, the movements of the animal almost immediately become convulsive, an exaggerated frequency of the pulse and the cardiac action will be produced, followed by tetanus, and finally by death. Piscidia seems to act almost exclusively on the grey matter of the medulla oblongata and the spine, as well as on the ganglia.

Piscidia erythrina is used in form of a powder, of a fluid extract, and of a tincture. The author of this paper employed in preference the latter. It may be prescribed as follows. Fluid extract of piscidia erythrina, 15 grammes (℥ss.); syrup of bitter orange-peel, 250 grammes (℥viij). Each teaspoonful will contain one gramme (15½ grains) of the extract, and three to seven teaspoonfuls of the syrup a day may be given. Of the tincture, 40 to 50 minims are the daily dose.

Until quite recently, piscidia has been considered as a hypnotic. Experience leads the author to the opinion that it principally acts as an anodyne, and that sleep is not its specific immediate effect, but only rendered possible in consequence of the cessation of pain.

Hamilton's first trial in 1844 perfectly confirms this view. He suffered from violent toothache, which nothing would allay. After applying the tincture of piscidia on cotton-wool to the tooth, marked relief took place. This induced him to take internally a few drops of the tincture, after which the pain perfectly ceased and profound sleep ensued.

The preparations of piscidia prove beneficial principally in neuralgia, and the author rapidly cured several cases of obstinate brachial or facial neuralgia. He prescribes exclusively the Jamaica piscidia, which, of all other kinds, is the most active; and uses the tincture, of which he gives 30 to 40 minims a day. Of the American fluid extracts, and of those prepared by Limousin, in France, 3 to 4 grammes (46 to 60 grains) a day may be taken either pure or in a mixture.

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[*] Viburnum prunifolium L., guelder-rose, of the natural order Caprifoliaceæ.

[*] This property, common to the bark of the piscidia and to the fruit of the Levant-nut, is due to a very poisonous crystalline alkaloid called 'picrotoxine.' The Levant-nut (Bacca orientalis) is the fruit of Cocculus indicus and C. tuberosus, Decandolle, or Anamirta paniculata, a climbing plant of the natural order Menispermiaceæ, a native of the Malabar Coast and the Indian Archipelago. It is employed by poachers for taking fish and game, and for adulterating malt liquors.

[†] From 'Ερυθραῖος,-α-ον, red, or 'Ερυθρῖνος, the red mullet.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5508.

WILLE ON SIMULATION OF INSANITY.

THE number of the *Medico-Legal Journal of New York* for last December contains an original article on 'Simulation or Disturbed Intellect,' by Professor L. Wille of Basle. He commences with a description of a case of supposed simulation, in a man who had committed indecent actions with children under fourteen years of age. He was examined as to his mental soundness, and declared by Dr. Wille to be suffering from initiatory symptoms of a prospective severe disease of the brain. Dr. Wille declared himself convinced that at the time of the occurrence for which the man was under indictment he was in a mentally normal condition, and that he ought to be held responsible for what he had done. He was accordingly condemned to penal servitude for a period of five years. After the sentence his health progressively declined, but it was not till about twenty months afterwards, that he was sent to Dr. Wille's asylum much weakened in mind and body. He became rapidly worse, and died in thirteen days. 'The autopsy showed two gummata in the first parietal convolution, surrounded by extensive softening centres; one encephalic nidus in the convolutions of the left island, and, circumscribed by these regions, a meningo-encephalitis.'

The peculiarity of this case, as stated by Dr. Wille, was that besides simulation there was a deranged intellect. Like Dr. Yellowlees, the Swiss physician would admit descending grades of responsibility. He observes that, since the patient already presented at his trial 'undoubted symptoms of a developing brain-affection, this should and must be presented with all authority on part of the physician, as a ground for mitigation, and in so far the medical opinion should be in behalf of a diminished responsibility. That the patient was condemned to so severe a punishment by the Court, notwithstanding the admission of a diminished capacity of accountability, may find its explanation in the circumstance of his long continued and systematic simulation, which was considered by the judge a matter weighing heavily against the criminal; while the abnormal mental functions present at the time of the sentence, seemed to him to merit no essential consideration.'

Dr. Wille further remarks—'As in all other cases of my personal experience, in which the same question was involved, here also we had not to do with a simulator, who mentally was in a fully normal condition. They were always persons subject to epilepsy, hysteria, to alcoholism, to typical heredity; that is, the persons who had recourse to this means were, in general, persons whose mental condition came as near to mental disturbance as to mental health.

'In my large forenso-psychical practice, I have not found a single case of simulation of any mental disorder on part of a man in a normal mental condition. I can only, therefore, adhere to the opinion of the greater number of specialists, that such cases of simulation on part of those of sound mind are among the rarest occurrences. The fact that the recognition of simulation is often so very difficult, is also due to the circumstance that there are found mixed up with the unnatural, exaggerated or caricatured picture, which the simulator falsely offers, more or less numerous *true* traits of an abnormal mental life, which may mislead the judgment.'

Dr. Wille has evidently a good deal of confidence in his powers of drawing subtle distinctions between insanity and some other symptoms of brain-disease.

W. W. IRELAND, M.D.

ARTICLE 5509.

BOUCHARD ON THE TOXIC SUBSTANCES EXISTING IN NORMAL ORGANISMS, AND ESPECIALLY IN NORMAL URINE.

AT the meeting of the Paris Academy of Sciences on March 12, M. Bouchard, Professor in the Paris Medical Faculty, read a paper on 'The Toxic Substances existing in Normal Organisms, and especially in Normal Urine.' All the chemical constituent principles of the animal organism can, he said, become hurtful when present in too large proportions. Oxygen, in too small a quantity, produces death; in excess, it has the same effect. Water, a most necessary element in the animal organism, kills, if more than the eighth of the weight of the animal be introduced into the blood. Chloride of sodium regulates the phenomena of osmosis, which are essential to the process of nutrition. This substance produces death, if more than one part of it to every four hundred parts of the weight of the animal be introduced into the economy. Other substances, which are also indispensable integral constituents of the animal organism, will, in much lower doses, produce death. Eighteen centigrammes of chloride of potassium to every kilogramme of the weight of the animal will prove fatal. Many other substances, much more toxic, are present in the animal economy. The human organism, like that of other animals, is impregnated with toxic substances, either introduced or developed. These substances, in consequence of their constant ingestion with the food and uninterrupted nutrition, increase and accumulate. Nevertheless, poisoning does not ensue in normal conditions. There are three different preventive causes. Some of the poisons are destroyed by intra-organic oxidations; others are arrested and destroyed by the liver; the principal part is excreted by different emunctories.

When normal urine is injected into the veins of an animal, the pupil contracts. After ten, twelve, or fifteen cubic centimètres of urine have been injected, myosis becomes more and more marked, until the pupil resembles a pin-hole; the respiratory movements become quicker and shorter; the animal grows weaker, it moves with difficulty, and finally sleeps. Urinary secretion is increased; the animal also passes urine frequently. Temperature becomes lower; palpebral and corneal reflex action is lessened; exophthalmos often occurs. Finally death results, generally without convulsions. Sometimes there are slight muscular contractions, and under certain conditions opisthotonos. Heart-beats are observed after death, and contractility of striated and non-striated muscle. The pupil either remains contracted, or in some cases dilates. If a lower dose of urine than the one specified be injected, one sufficient to produce coma, but not to cause death, the respiratory movements are short and feeble, the animal is cold, presents stenosis of the pupil, and polyuria ensues. Urine escapes every ten minutes. The superficial vessels dilate; the arterial pulsations are so intense that they are perceived in the end of the ear. The animal then becomes less torpid, its temperature increases, and its pupil dilates; it regains its normal condition without the advent of any pathological condition. Albuminuria rarely occurs from injecting normal urine; when it does, it is always very slight and transitory. With some kinds of pathological urine, it is constant; hæmaturia is sometimes produced. When a fluid of a lower temperature than that of an animal is injected into its veins, its temperature is lowered, in consequence of the equilibrium which is established between the body and the fluid injected; but this effect is only transitory, and an increase of temperature quickly follows the injection. When urine is injected, the animal heat is lessened. The quantity of urine required to kill a kilogramme of living matter varies. It is influenced by external considerations. The same person at the same hour of the day, may, according to the larger or smaller quantity of fluid he imbibes, furnish urine which is toxic in doses of ten or of ninety cubic centimètres to every kilogramme. The more urine is diluted, the less toxic it is. Like distilled water, it may be toxic in doses of 122 cubic centimètres to every kilogramme of living matter; it can even be less toxic than distilled water. Certain solid toxic substances contained in urine weaken the power inherent in water to make the blood-corpuscles swell and dissolve. The average toxic power of urine of a normal adult is 45 cubic centimètres of urine to every kilogramme of living matter. A healthy adult man eliminates every twenty-four hours, for every kilogramme of his weight, a sufficient quantity of urinary poison or urea to kill 404 grammes of living matter. His uritoxic coefficient is, therefore, 0·4645. He would take two days and four hours to produce enough urinary poison to be autotoxic.

M. Bouchard's further researches will be made to ascertain the quality and intensity of urinary toxicity under various conditions, cerebral activity, muscular activity, sleep, different kinds of food, &c.; also to determine what are the substances on which this toxicity depends. W. VIGNAL.

SURGERY.

RECENT PAPERS.

5510. BARKER.—The Removal of Deep-seated Tumours of the Neck. (*Lancet*, January, p. 194.)

5511. MACLEOD.—Reduction of Dislocations of the Shoulder without an Anæsthetic. (*Brit. Med. Jour.*, January, p. 194.)

5512. MAC CORMAC.—Extraction of the Blade of a Tooth-forceps from the Right Bronchus. (*Lancet*, January, p. 7.)

5513. MORSE.—Gastro-enterostomy for Cancerous Obstruction of the Pylorus. (*Brit. Med. Jour.*, March, p. 488.)

5514. BARKER.—A Case of Gastro-enterostomy for Cancer of the Pylorus and Stomach. (*Brit. Med. Jour.*, February, p. 292.)

5515. CHAVASSE.—Gastrostomy in the Treatment of Œsophageal Cancer. (*Lancet*, February, p. 339.)

5516. HOWLETT.—Drainage of the Bladder. (*Brit. Med. Jour.*, February, p. 289.)

5517. LOWNDES.—Sloughing Ulcer of the Penis. (*Lancet*, February, p. 248.)

5518. THOMPSON.—The After-history of a Successful Case of Operation for removing a Vesical Tumour. (*Lancet*, February, p. 293.)

5519. BUCHANAN.—A Case of Stunning and Burn by an Electric Lamp. (*Lancet*, February, p. 297.)

5520. LOW.—The Treatment of Chronic Ulcers. (*Brit. Med. Jour.*, February, p. 342.)

5521. KEETLEY.—The Skin-incision in Herniotomy. (*Brit. Med. Jour.*, February, p. 343.)

5522. BARKER.—A Case of Stab in the Abdomen with a Carving-knife. (*Lancet*, February, p. 347.)

5523. MACGREGOR.—The Treatment of Painful Fissure of the Anus. (*Brit. Med. Jour.*, February, p. 392.)

5524. LLOYD.—Controlling Bleeding during Excision of the Tongue. (*Lancet*, January, p. 153.)

5525. MAC CORMAC.—Cicatricial Stricture of the Œsophagus. (*Lancet*, January, p. 191.)

5526. ANNANDALE.—Compression of the Innominate Artery. (*Lancet*, March, p. 481.)

5527. BARKER.—A Case of Acute Intestinal Obstruction. (*Brit. Med. Jour.*, March, p. 445.)

5528. MAC CORMAC.—Varicocele treated by Scrotal Incision and Ligature of the Veins. (*Brit. Med. Jour.*, March, p. 493.)

5529. HUTCHINSON.—The Proper Site for Incision on the Back of the Femur. (*Brit. Med. Jour.*, March, p. 588.)

5530. SMITH, NOBLE.—Separation of the Epiphysis of the Caput Femoris. (*Lancet*, March, p. 538.)

5531. GAMGEE.—On Saving Condemned Limbs. (*Lancet*, March, p. 537.)

5532. MAC CORMAC.—Gunshot Injury of the Knee-Joint. (*Lancet*, February, p. 389.)

5533. ROBINSON.—A Case of Distended Bladder without Symptoms. (*Lancet*, April, p. 722.)

5534. WILLIAMS.—Stone Sacculated in the Female Bladder. (*Lancet*, April, p. 736.)

5535. SABOIA, V.—Aneurysm of the Subclavian Artery Cured by Galvano-puncture. (*O Correio Medico de Lisboa*, March 15, 1886.)

ART. 5510. *Barker on the Removal of Deep-seated Tumours of the Neck.*—In the *Lancet*, January 1886, p. 194, Mr. A. E. Barker records four cases in which he removed deep-seated tumours from the neck with success. All the tumours lay beneath the sterno-mastoid muscle, and in one case the scalenus anticus muscle and internal jugular vein were implicated, and had to be cut away with the growth. From the experience gained by these cases, the author does not consider that any injury occurs to the nerves of the neck if proper care be taken, nor does any trouble arise when it is necessary to ligature one of the large veins of the neck. All the wounds healed by first intention, and were dressed in accordance with strict antiseptic principles; the carbolic gauze, however, being replaced by salicylic wool, which allowed pressure to be equally applied when the wound was bandaged.

5511. *Macleod on Reduction of Dislocations of the Shoulder without an Anæsthetic.*—In the *Brit. Med. Jour.*, January 1886, p. 194, Dr. K. Macleod describes a method of reducing dislocations of the shoulder without an anæsthetic. The advantages claimed are its ease, rapidity, and freedom from pain. It is as follows. 'Let the patient lie supine on the floor or ground, with the dislocated arm outstretched at right angles to the trunk, and also on the floor. Having told the patient to lie quite still and make no effort, let the surgeon, placing the approximate heel in the axilla, make traction gently and steadily at right angles to the line of the trunk; and, as there may be no jerk or evident intimation of the return of the head of the bone to its place, let him ascertain its position, if necessary, adducting the limb to make sure; if reduction have not taken place, let him renew and increase the force of traction, and repeat the examination until he has succeeded or failed, in which latter case nothing has been done to interfere with the application of other methods. In many cases the heel in the axilla may be unnecessary, but it will serve to steady the scapula, and afford a better counter-extending force than the weight of the patient's body, thus leaving him free to lie still and make no effort.'

5512. *Mac Cormac on Extraction of the Blade of a Tooth-forceps from the Right Bronchus.*—In the *Lancet*, January 1886, p. 7, Sir William Mac Cormac records the case of a young girl, aged 24, who was having some teeth extracted, when the blade of the tooth-forceps broke off and disappeared down her throat. For three weeks she suffered much from pain and dyspnœa, and was almost confined to bed. She was then admitted under the author's care, who diagnosed that the blade of the forceps was lodged in the right bronchus. It was decided to perform tracheotomy. The patient was placed under chloroform, and the shoulders well raised, with the head thrown back. An incision was made through the skin, extending from the cricoid cartilage nearly to the notch of the sternum. The trachea was exposed below the thyroid body, and all hæmorrhage was carefully checked. The thyroid body was then divided by passing an aneurysm-needle, carrying a double silk thread, so that the tissue of the gland was tied on each side and divided between the ligatures. A central incision was then made into the trachea, about one inch and a half long; the sides were held widely apart, while a pair of forceps was introduced into the trachea. Nothing could be felt in the left bronchus, but, when the instrument was passed into the right bronchus, it seemed to strike something. Several attempts were made to grasp the foreign body, but failed. Several other instruments were tried without success. At last, however, it was seized, and extracted with much bleeding. The wound was then closed, and the patient made a perfect recovery.

5513. *Morse on a Case of Gastro-enterostomy for Cancerous Obstruction of the Pylorus.*—In the *Brit. Med. Jour.*, March 1886, p. 488, Mr. Morse records the case of a woman, aged 65, who was suffering from a tumour involving the pyloric end of the stomach. It was decided to perform gastro-enterostomy. On Jan. 4, 1886, the patient being under ether, Mr. Morse made an incision obliquely from above downwards, and from left to right, about an inch above the umbilicus, between four and five inches long. It was found that the large and small omentum were infiltrated with secondary nodules, and therefore that it would be of no use to extirpate the growth. A communication between the stomach and jejunum being the only chance of prolonging life, a part of the great omentum was separated from the great curvature of the stomach, between two ligatures, opposite the centre of the organ, for a distance of two or three inches; the duodenum could then be seen crossing the spine, and ending in the jejunum; the third inch of the latter was taken up, and dragged forwards to the stomach through the opening in the great omentum. Whilst the jejunum was held against the stomach, seven sutures were inserted, between the serous and muscular coats only, so as to attach the two parts together before opening either viscus. The stomach was then opened by an incision of about one-third of an inch, anterior to the line of suture, just enough to admit a No. 14 catheter. By this means the contents of the stomach were emptied. The incision in the stomach was then enlarged to one inch, and a similar incision was made into the jejunum. The suturing of the posterior cut edges of each viscus was then completed according to Czerny's method, as described in Billroth's *Clinical Surgery*. Next the anterior edges of the two viscera were united by ten sutures in one row, and so placed that they united the cut edges, and also the serous surfaces of the two viscera. The abdominal cavity was then sponged out, and the external wound was united. A dressing of Gamgee's absorbent tissue was strapped over it, and a flannel binder was applied over all. The patient rallied well from the operation, but died thirty hours afterwards from exhaustion. No *post mortem* examination was made.

5514. *Barker on a Case of Gastro-enterostomy for Cancer of the Pylorus and Stomach.*—In the *Brit. Med. Jour.*, February 1886, p. 292, Mr. A. E. Barker records the first instance of gastro-enterostomy performed successfully in this country, and describes a new method of suture which he himself has devised. The patient was a woman, aged 37, who had suffered for about eighteen months from severe gastric disturbance. On examination, it was found that there was a growth in the pyloric end of the stomach. Mr. Barker decided to open the abdomen, under strict antiseptic precautions; this being done, there was found a growth about the size of half an orange, involving part of the pyloric end of the stomach. From its position, and the presence of infiltrated glands, it was decided not to excise the pylorus, but to perform gastro-enterostomy, *i.e.* to establish an artificial opening between the stomach and jejunum. The operation performed resembled those previously done, but the author devised a plan of suturing the posterior edges of the incisions by a continuous suture, passing only through the serous and muscular coats of the stomach and jejunum. When this was complete, the incisions were carried through the mucous coats, which were thus left undisturbed until the sutures were applied. The patient stood the operation very well, and made an excellent recovery. Great relief resulted, and a month after the operation she was daily able to sit up for a few hours.

5515. *Chavasse on Gastrostomy in the Treatment of Œsophageal Cancer.*—In the *Lancet*, February 1886, p. 339, Dr. T. F. Chavasse discusses the subject of gastrostomy. The various methods employed of obtaining firm adhesion of the stomach to the abdominal parietes before opening the viscus are: 1, the simple suture; 2, a double row of sutures; 3, clamping the anterior wall of the stomach with forceps, which by their weight pull forward the viscus and keep it in position without the aid of stitches; 4, the gather, or running stitch, as practised three times with success by the author; 5, Boyce Barrow's method with good sized hare-lip pins. Short notes are given of six cases in which this operation has been performed. Four of them died from pneumonia;

in one, the patient died from exhaustion from an abscess containing about a pint of pus found lying between the lobe of the liver and the stomach-wall. The causes of death after gastrostomy may be said to be—1, shock; 2, peritonitis and exhaustion; 3, broncho-pneumonia. The object of the operation is to prevent suffering and to prolong life. To be of any real service, the operation should be performed as soon as the diagnosis is made, and before the vitality of the individual is enfeebled.

5516. *Howlett on Drainage of the Bladder.*—In the *Brit. Med. Jour.*, February 1886, p. 289, Mr. Howlett describes a new method of draining the bladder, by what he terms postprostatic puncture from the perinæum. Five other methods have been employed, viz., suprapubic, rectal, and interpubic puncture; opening the membranous urethra, and prostatic puncture. The postprostatic puncture is free from all the objections brought against the other methods; it is well placed for drainage, it does not interfere with the genital tract, nor is it in the way of defæcation. To perform the operation, the patient is placed as for lithotomy. The forefinger of the left hand being passed into the rectum, in order to explore the prostate and inferior surface of the bladder, a trocar and cannula, of the size of a No. 12 catheter, is thrust through the skin about three-quarters of an inch in front of the anus, and slowly pushed on till resistance is felt to have disappeared; the trocar is then withdrawn, and the bladder is emptied. Instead of retaining the metal cannula, it is better to introduce a No. 8 red elastic tube, fitted with a tap. The tube is maintained by tapes, passed through a belt round the abdomen. Two cases are recorded, in which the author performed this operation with very beneficial results.

5517. *Lowndes on Sloughing Ulcer of the Penis.*—In the *Lancet*, February 1886, p. 248, Mr. Lowndes contributes notes of three cases of sloughing ulcer of the penis. This form of sore is not at all common in the present day, whereas, twenty-five years ago, it was frequently seen. The author states that he considers the internal use of opium a most valuable remedy, especially when hæmorrhage takes place. It is also a good plan to apply iodoform, on account of its healing properties, and because it is a powerful deodoriser.

5518. *Thompson on the After-history of a Successful Removal of a Vesical Tumour.*—In the *Lancet*, February 1886, p. 293, Sir Henry Thompson reports the after-history of a case in which he removed a vesical tumour in May 1884 from the bladder of a man aged 63, and in June 1885 the patient wrote as follows. 'I have not the slightest sign of any return of the bleeding, have got over all effects, and am in as good health as ever I was in my life.' A few weeks after writing this letter, cellulitis of the arm set in, necessitating amputation, and this proved fatal. On a *post mortem* examination, there was no evidence of any return of the growth, and the cicatrix was very distinct.

5519. *Buchanan on a Case of Stunning and Burn by an Electric Lamp.*—In the *Lancet*, February 1886, p. 297, Prof. George Buchanan relates a case of injury from an electric lamp. A man, aged 44, was engaged at a crane; at the arm of the crane was an iron pulley, over which hung an endless chain for raising weights. The man had occasion to pull at the chain, and, while so doing, an electric lamp by accident touched the iron pulley. The instant this occurred the man felt a shock pass through him, became 'doubled up,' and then lost consciousness, with his hands firmly and involuntarily grasping the chain. Three or four minutes elapsed before the electric current was cut off, when the man dropped to the ground. About an hour afterwards, he was quite conscious. The injuries received were not severe. There was a vesication on the palm of the hand where it held the chain, and one on the neck where it rested against the chain. On the sole of the right foot, where the chief weight of the body rested in the act of pulling, was a spot about two inches square, where the tissues were completely charred by the heat of the current passing into the ground. The moist foot of the man must have acted as the medium of conduction between the man's body and the ground. For twenty-four hours after the injury, the man complained of a feeling of heat in the abdomen and chest, with dimness of vision. The wounds healed rapidly, after a large slough had separated from the sole of the foot. Had a bystander lifted the man's foot from the ground, the current through his body would have been arrested at once.

5520. *Low on the Treatment of Chronic Ulcers.*—In the *Brit. Med. Jour.*, February 1886, p. 342, Mr. W. S. Low records a case of long-standing chronic ulcer, which he treated with much benefit to the patient. A man, aged 48, had suffered for twelve years from a very extensive ulceration of the right leg. There was almost one mass of broken surface on each side of the knee, on the back of the calf, and in the popliteal surface, even extending to the posterior surface of the thigh. The surfaces were deep, with raised hard edges. The discharge was very offensive. The whole surface was first attacked with a lotion of solution of bichloride of mercury (one drachm to eight ounces). This was syringed daily over the wound, the condition of which was quickly sweetened. As the dead tissues separated, there often was much hæmorrhage. At first, the wounds were only dressed with lint wrung out in the bichloride lotion, but later on the author dusted finely powdered iodoform freely over the most painful spots. This gave great relief to the pain, and contributed immensely to the comfort of the patient. In using iodoform, it is necessary not to persist in its application too long, as granulations tend to break down after it has been used for a short time. Its application to an inflamed surface should be avoided as it tends to irritate. Much benefit was derived in this case from the use of a Martin's elastic bandage, which was applied over the dressings from the toes to the thigh. In about six weeks the ulcer completely healed, and the general health improved.

5521. *Keetley on the Skin-incision in Herniotomy.*—In the *Brit. Med. Jour.*, February 1886, p. 343, Mr. C. B. Keetley writes that he has found much trouble arising from the tender state of the cicatrix in cases of herniotomy. In order to enable the patient to have a truss applied earlier, he now incises the superficial structures at some distance external to the ring (whether femoral or inguinal). Another advantage in this plan is, that one avoids the fold of the groin. Again, a perpendicular incision in this place tends to gape in fat people; and, if the sutures yield, the wound opens widely before union has taken place. In these patients the incision should be an oblique one, almost parallel with the fold of the groin. In the *Liverpool Med.-Chir. Jour.*, January 1886, Mr. Rushton Parker states that he makes the incision in operations for hernia as far away as possible from the penis and rectum.

5522. *Barker on a Case of Stab in the Abdomen with a Carving Knife.*—In the *Lancet*, February 1886, p. 347, Mr. Barker records a case of penetrating wound of the abdomen, occurring in a healthy girl, aged 14. She was carrying a dish downstairs, on which was a carving knife pointing towards herself. She stumbled, and, the handle of the knife coming into contact with the door, the blade ran into her abdomen, remaining there some seconds before falling out by its own weight. Two hours after the accident she was seen by Mr. Barker, who carefully cleansed the wound with carbolic solution, and then examined the wound. There was a clean cut an inch long, seated two inches to the left and an inch and a half above the level of the umbilicus, close to the margin of the ribs. Judging from the extent and direction of the wound that the stomach or transverse colon must be injured, Mr. Barker decided to explore the abdominal cavity. The skin-wound was enlarged forwards to the extent of three inches, the inner end of the incision reaching the middle line, about half an inch above the umbilicus. The rectus muscle was then found to have been almost completely divided across; the wound gaped widely, and was partly blocked by a mass of omentum. This was drawn out, and carefully wiped with carbolised sponges. Next, the stomach was drawn out of the wound, and was found to be uninjured. Having been carefully wiped it was replaced, and the adjacent part of the colon was pulled out and examined, but no wound was found. The bowel was also carefully wiped and replaced; then the abdomen was sponged out with small carbolised sponges. The wound was next brought together with sutures, then dusted with iodoform, and dressed with salicylic wool. The patient was kept in bed for three weeks, and went home perfectly well.

5523. *Macgregor on the Treatment of Painful Fissure of the Anus.*—In the *Brit. Med. Jour.*, February 1886, p. 392, Mr. A. D. Macgregor records a case of painful fissure of the anus, cured without any operative interference. A man, aged 56, had suffered for eighteen months from pain during defæcation. On examination, the author found a fissure nearly an inch in length, with irregular edges and an indurated base. The sphincter was much hypertrophied, and contracted powerfully during the examination. A full dose of castor-oil, with some rhubarb, was ordered. When this had operated, the bowel was well washed with an enema containing Condy's fluid. This done, the author passed a speculum and painted the fissure with a solution of chloride of zinc (twenty grains to the ounce); a piece of lint smeared with boric ointment was then introduced into the fissure. The boric ointment was used every day, and some boric acid powder was sprinkled on lint and introduced into the rectum to dry up any discharge. In six days the patient was quite well.

5524. *Lloyd on Controlling Bleeding during Excision of the Tongue.*—In the *Lancet*, January 1886, p. 153, Mr. Jordan Lloyd describes the following method for controlling the bleeding during complete or partial excision of the tongue. When the patient is under chloroform, gag the mouth widely open, introduce the left index finger well to the bottom of the glosso-epiglottidean pouch, defining clearly the hyoid bone with its cornua, the front of the epiglottis, and the back of the root of the tongue. Take a stout, long, well-curved needle in a hank, thread it with medium-sized whipcord, and enter it from the front of the neck in the middle line immediately above the hyoid bone; feel for the point of the needle with the left finger as the instrument is pushed through the root of the tongue. In this way the epiglottis is protected from injury, and nothing more than the lingual tissues is transfixed. Hook up the loop of thread with the left finger, and pull it well through and out of the mouth. Withdraw the needle, liberate the thread from it, and cut through the loop. Now enter the empty needle at the same point of puncture, through the skin only, and pass it subcutaneously to the right, until its point is opposite the upper border of the root of the great cornu. Care must be taken to keep just under the skin and so avoid the lingual artery. Now turn the point inwards above the great cornu, so as to enter the bottom of the side of the pouch, and feel for the point of the needle with the finger. Thread one of the ends of the cord which is in the mouth through the needle, and withdraw. By this means you will have a loop around the root of the right half of the tongue, by which you can control the bleeding. In a similar manner the left side can be controlled, and the tongue excised without any loss of blood.

5525. *Mac Cormac on Cicatricial Stricture of the Œsophagus.*—In the *Lancet*, January 1886, p. 191, Sir Wm. Mac Cormac publishes the notes of a case of stricture of the œsophagus, treated by gradual and afterwards by forcible dilatation. A boy, aged 12, was admitted into hospital three-quarters of an hour after he had accidentally swallowed some strong liquor potassæ. For a week he had no difficulty in taking food, merely complaining of soreness. After this, he gradually found that swallowing became more difficult, and in about six weeks he was totally unable to swallow anything. This continued for two days, when he was able to swallow a little cocoa and some soaked bread. The author then decided to examine the œsophagus; after some difficulty, he was able to pass a No. 4 urethral bougie. The obstruction was six inches from the edge of the upper teeth. A second less marked obstruction was felt lower down. Bougies were now passed regularly, and after a week a No. 11 could be introduced, and now a third constriction was felt near the cardiac orifice of the stomach. For the next three weeks small bougies were passed twice a week, and the patient was able to swallow bread-and-butter, minced meat, &c., without much trouble. During the four weeks, he had gained ten pounds. It was now found that all attempts at gradual dilatation failed to enlarge the stricture; the patient was therefore placed partially under an anæsthetic, and the author forcibly dilated the stricture, with an instrument which he had made for the purpose, and drawings of which are given in the *Lancet*. On the first occasion, the stricture was dilated up to a No. 17 bougie, and for six weeks a No. 16 was passed every other day. Then the patient was anæsthetised again; and the œsophagus was dilated to the size of a No. 26 bougie, urethral scale. The boy was placed under chloroform on two or three subsequent occasions, until a bougie nine lines in diameter could be passed with ease. The patient improved rapidly, and left the hospital able to eat any kind of food. For many months afterwards he was seen at intervals of two or three weeks, and a full-sized bougie was always passed without any trouble.

5526. *Annandale on Compression of the Innominate Artery.*—In the *Lancet*, March 1886, p. 481, Prof. Annandale contributes a paper in which he treats of—1, temporary compression of the innominate artery in connection with prevention of hæmorrhage in operations or injuries involving its main branches; 2, more permanent compression of this same artery, in connection with the treatment of aneurysms involving its main branches. The author describes an instrument which he employs in compressing the artery. It consists of two blades united by a hinged joint, separated and approximated by means of a screw. A case is described in which the author used this instrument, in a patient suffering from an aneurysm of the second and third parts of the right subclavian artery. The innominate artery was exposed by an incision in the middle line of the neck, about two inches in length, over the lower part of the cervical trachea; the various tissues were cut through until the trachea was reached; then a director was carefully insinuated behind the innominate artery and the compressor applied; the circulation in the vessel and its branches was completely checked for a time. The wound was then closed and dressed antiseptically, a drainage-tube being inserted. The patient went on very well indeed until the twelfth day, when sudden hæmorrhage came on, death following in a few hours. On *post mortem* examination, it was found that the hæmorrhage came from a small ulceration of the coats of the artery, due to the continuous pressure of the point of the drainage-tube upon it. This case was a success as far as the compression by the instrument, devised by Prof. Annandale; but the accident from the use of a drainage-tube was unfortunate, and forms an useful lesson.

5527. *Barker on a Case of Acute Intestinal Obstruction.*—In the *Brit. Med. Jour.*, March 1886, p. 445, an account is given of a case in which Mr. A. E. Barker performed abdominal section for acute intestinal obstruction, with marked success. A man, aged 23, was seized with violent pain in the abdomen on the evening of Nov. 14, 1885. He soon commenced to vomit, and continued to do so until the evening of the 16th, when he was seen by Mr. Barker. The patient had been treated by large enemata, and by opium internally, but no relief was obtained. It was decided to perform abdominal section, as soon as Mr. Barker had seen the patient. The abdomen was accordingly opened in the middle line from the navel to the pubes, and was found to contain much flaky serum and free gas; the intestines were coated with lymph, and moderately distended. A loop of bowel, deeply congested, was found when the middle third of the jejunum was reached. Every other part of the gut was examined, but no further obstruction existed. The bowels, having been perfectly cleansed, were then replaced, and the whole abdomen was mopped out with carbolised sponges passed into every recess. In the flanks and pelvis, the largest amount of inflammatory products were found, and required repeated sponging. When the whole cavity had been cleansed, the wound was united with seven deep and two superficial carbolised silk sutures, dusted with iodoform, and dressed with salicylic wool. The patient made a rapid recovery. Mr. Barker considered the case to be one of volvulus of the jejunum, a very rare condition.

5528. *Mac Cormac on Varicocele treated by Scrotal Incision and Ligature of the Veins.*—In the *Brit. Med. Jour.*, March 1886, p. 493, Sir William Mac Cormac records six cases of varicocele treated by scrotal incision and ligature of the veins. The method of operation was similar in each case. A lad, aged 17, applied to the hospital on account of a swelling in the scrotum. On examination, there was found a mass of thickened and tortuous veins on the left side of the scrotum. Under the influence of ether an incision was made, one inch in length, in the scrotum; then the group of enlarged veins was dissected out, as it lay in front of the left spermatic cord. The veins were then isolated from the vas deferens. Two catgut ligatures were applied, about half an inch apart, and the included veins were divided between them. The scrotal wound was then closed by suture, and dressed with iodoform gauze under antiseptic precautions. Healing took place rapidly. The patient had retention of urine for two days, but otherwise no bad symptoms arose. He was discharged eighteen days after the operation. In all the six cases the operation was performed antiseptically. A plan of cross bandaging over the perinæum was applied, so that the dressings were securely fastened. This is done as follows: the bandage, after a turn round the body, passes down obliquely across the left groin, then behind the left thigh, just below the fold of the nates, then obliquely upwards across the perinæum towards the right iliac spine, and around the body behind, and from the left iliac spine obliquely downwards across the perinæum and behind the gluteal fold on the right thigh, and so on. In this way the lower part of the dressing is firmly secured, while the anus is left quite free. The penis projects through an opening in the dressing, and can be packed round, if necessary, with salicylic wool. The author does not suggest this method of operating in every case, though in each of his six cases complete success was obtained.

5529. *Hutchinson on the Proper Site for Incision upon the Back of the Femur.*—In the *Brit. Med. Jour.*, March, p. 588, Mr. Jonathan Hutchinson notes that in young persons it is not uncommon for acute periostitis to occur behind the middle third of the femur. It is necessary to open the abscess as early as possible, and the safest place to reach the bone is on the outer side, in the hollow between the tendon of the biceps and the ilio-tibial band. At this spot, a free incision may be made down to the bone without encountering any important structure.

5530. *Smith on Separation of the Epiphysis of the Caput Femoris.*—In the *Lancet*, March 1886, p. 538, Mr. Noble Smith records a clear instance of separation of the epiphysis of the caput femoris. A delicate young lady, aged 17, nearly fell while walking on wet boards, the right leg slipping outwards and forwards. She afterwards felt severe pain in the knee, and in the region of the hip-joint. She was seen by a surgeon, who could not detect any injury beyond severe strain of the femoral muscles, with probably some rupture of the capsular ligament; he however noticed that the toes inclined outwards at about 30° from the vertical, but that there was no shortening of the limb. The patient was kept in bed for three weeks, and then tried to get up, but found the right leg was useless. Eleven weeks after the accident, she was seen by the author. Then the leg measured one inch and a quarter shorter than the other. The foot was rotated outwards to the extent of 50°; whilst in the recumbent position she could flex the thigh to an angle of 45° with the straight line of the body, without moving the pelvis. The diagnosis formed at this time was that the epiphysis was separated from the shaft at the time of the accident, but was kept in position by the capsule, and that subsequently the bone became displaced by muscular action. There could be no doubt that the head of the bone was separated from the shaft. The treatment adopted was as follows. The patient being placed under ether, the thigh was flexed upon the body nearly to a right angle. While in a fixed position, manual traction was applied to the thigh; then it was rotated inwards and brought down to a straight line with the body. As the leg was brought down, cartilaginous grating was felt in the joint. The limb was then fixed in a Liston's long splint for six weeks. Afterwards, the patient walked on crutches for a month; then they were discarded, and she walked about without any aid, but a mechanical support from the boot to the thigh and pelvis was worn for some time afterwards.

5531. *Gamgee on Saving Condemned Limbs.*—In the *Lancet*, March 1886, p. 537, Mr. Gamgee records the case of a patient who had met with an accident and had fractured his right ankle. The surgeon applied leeches on account of the swelling, and bandaged the foot in padded wooden splints for five days; he then removed the splints, and found a large wound on the inner aspect of the limb. Splints were discontinued, and lotions applied for a few days; then the patient was advised to have the foot amputated. Before deciding upon the operation, Mr. Gamgee was consulted; he advised the operation to be postponed for twenty-four hours, in order to try the effect of the following treatment. The foot was raised, and on its outer side was placed a double millboard splint, from the lower third of the thigh to the foot. The splint and the inner side of the limb were carefully padded with layers of dry absorbent gauze and cotton tissue. The whole limb was then smoothly bandaged, with equable but decided pressure, and placed on its outer side in a swing. Next day the pain was much less, the swelling having considerably subsided. The wound was redressed and the limb put back in the swing. The dressing was repeated every morning for three days, and then only every other day. Later, abscesses formed in the tissues of the leg, but these were well drained. For six weeks the wound was dressed every other day, after that, only twice a week; and in less than three months the patient was able to go downstairs with a joint which was steadily improving in movement and strength, instead of an artificial foot.

5532. *Mac Cormac on Gunshot Injury in the Neighbourhood of the Knee-joint.*—In the *Lancet*, February 1886, p. 389, Sir Wm. Mac Cormac records two cases of gunshot injury, in both of which a bullet was lodged for some time in the condyles of the femur. One patient, who was 30 years old, received a wound from a Martini-Henry rifle bullet on Dec. 23, 1884, the bullet entering on the inner side of the left thigh just above the knee. Six months afterwards, he was admitted into St. Thomas's Hospital under the author. A sinus was then found, opening just above the internal condyle of the left femur; and, on passing a Nélaton's porcelain probe, the bullet was detected in the end of the femur. The patient was then placed under ether, and an incision made down to the bone. By means of a mallet and chisel, the opening in the bone was sufficiently enlarged so as to allow the bullet to be seized with a pair of toothed bullet-forceps. After extraction a drainage-tube was inserted, and the wound well washed out. The patient made a good recovery, being able, six months afterwards, to walk any distance. The other patient was a young man aged 25, who suffered from almost exactly the same injury, and underwent the same kind of operation, making an excellent recovery in a very short time. These cases show that injuries in the neighbourhood of the knee-joint, and even when the joint is injured, are not so fatal if an expectant line of treatment be adopted, instead of excision or amputation.

5533. *Robinson on a Case of Distended Bladder without Symptoms.*—In the *Lancet*, April 1886, p. 722, Dr. T. Robinson records the following case. A clergyman, aged 70, was first seen in September 1885 for eczema. On examining the abdomen, an oval tumour was detected reaching up to the umbilicus. This continued increasing until the middle of March, when the patient again consulted the author. The tumour reached higher than the umbilicus, and bulged towards the left. The patient stated that he only passed urine two or three times a day, and once during the night. The urine was free from mucus or pus. Whilst the patient was under the influence of ether a catheter was passed, and nearly four pints of perfectly healthy urine were drawn off, the tumour entirely disappearing. An examination *per rectum* revealed a large middle lobe of the prostate. The patient never complained of any symptoms that pointed to an enlargement of the bladder.

5534. *Williams on Stone Sacculated in the Female Bladder.*—In the *Lancet*, April 1886, p. 736, Mr. Chas. Williams records an interesting example of a stone impacted in a cyst in the bladder of a girl aged three years. The case was in 1873 under the care of the late Mr. G. Hutchinson, who, at the wish of the parents, decided to remove the calculus by dilatation. The child being placed under chloroform, Mr. Hutchinson freely dilated the urethra, but did not detect the stone for some time, and then had much difficulty in seizing it with the forceps; the blades continually slipped off, bringing away only small pieces of the calculus. After repeated failures, it was considered necessary to ascertain the reason of the difficulty. For this purpose the urethra was still further dilated, and the neck of the bladder divided with a probe-pointed bistoury. The stone was now felt with the finger to be immovably fixed in the vesical floor. It appeared to be as large as a pigeon's egg, and was enclosed in a sac, through the neck of which a small portion protruded into the vesical cavity; all efforts to remove the body failed. The main piece was left *in situ*. The child never rallied, death supervening the next day, probably due to the effects of the chloroform. No *post mortem* examination was allowed.

RICHARD NEALE, M.D.

5535. *Saboia on Aneurysm of the Subclavian Artery Cured by Galvano-puncture.*—Dr. Saboia has presented to the Imperial Academy of Medicine of Brazil the history of a case of aneurysm of the right subclavian artery in a young man aged 30, cured by galvano-puncture. The tumour was of the size of a small hen's egg, bounded on the inner side by the sterno-mastoid, below by the clavicle, and on the outside by the trapezius. There was no difference between the pulsations of the two carotids, but the radial pulse of the left side was strong, full, and vibrating, while on the right side it was small, filiform, and scarcely perceptible. Two metallic needles were introduced into the tumour, and connected with the positive pole of a Gaiffe's pile of fourteen elements, the negative pole being applied to the trunk at a distance from the aneurysm. The sitting lasted thirty-five minutes, at the end of which the tumour had become tense and had ceased to pulsate.

G. D'ARCY ADAMS, M.D.

MEDICINE.

RECENT PAPERS.

5536. DAVIES.—On Diphtheria. (*Lancet*, April 1866.)

5537. BRIDGER.—Delusions, the Result of Intestinal Accumulation. (*Brit. Med. Jour.*, April, p. 688.)

5538. ANTUSZEWICZ, VICTORIA J.—On Two Cases of Pneumonia Migrans. (*Proceedings of the Viatka Med. Society*, No. 2–6, 1886, p. 1.)

5539. RIVA, PROFESSOR.—The Direct Treatment of Pulmonary Tuberculosis. (*Gazz. Med. Ital. Lombard.*, Feb. 13, 1886.)

5540. DE RENZI AND REALE.—Site and Force of the Apex-beat in Diseases of the Pericardium, Heart, and Great Vessels. (*Riv. Clinica e Terapeutica*, September 1885.)

5541. LEVI, PROF.— Primary Diphtheritic Nephritis. (*Gazz. Med. Ital. Lombardia*, Nov. 21, 1885.)

ART. 5536. *Davies on Diphtheria.*—In the *Lancet*, April 1886, Mr. N. E. Davies contributes some notes on his experience of the pathology and treatment of diphtheria. It is stated that almost always the outbreak of the disease is due to the contamination of water or milk with sewage saturated with human excrement, or with the overflow of earth-privies in low, damp localities. The micrococcus is admitted into the system by the mouth, and on the spongy tissues of the tonsillar glands it finds a congenial home; thence it invades the whole system through the blood. In 98 per cent. of cases, the pharynx is first attacked. The plan of treatment adopted by the author is as follows. If the disease be seen in its earliest stage, as soon as it is certain that diphtheria is present, a mixture is given containing six drachms of perchloride of iron in five ounces of sweetened water; and at this strength, undiluted, the child must take a dessert-spoonful every hour for twelve hours (for an adult a much larger dose must be given). It is necessary to keep on with the medicine, whether it cause vomiting or not. After a few hours, it will be noticed that the membrane on the throat has a shrivelled appearance. The dose is then diminished and the intervals extended; but the iron must be continued for three or four days at least. Good nourishing diet must be given, and, if it cannot be taken, the patient must be fed by enemata. The room must be well ventilated, with a thorough draught of fresh air constantly passing through the room. If the child be wayward, and will not take the medicine, then the author resorts to the plan of Bretonneau, who mops out the throat with a sponge moistened with concentrated acid; but in most cases the treatment by frequent doses of iron is sufficient.

5537. *Bridger on Delusions, the Result of Intestinal Accumulation.*—In the *Brit. Med. Jour.*, April 1886, p. 688, Dr. A. E. Bridger states a case of mental delusion dependent on intestinal accumulation. The patient was a lady, aged 50. She had enjoyed good health, until about a year before she consulted the author. She complained of loss of appetite, and was much emaciated; the skin was harsh, dry, and yellowish. Once or twice she had vomited, and lately a dry troublesome cough had developed. A few months later, mental delusions began to show themselves, and were only connected with taste and smell. She used to complain at night that some one was burning sulphur or phosphorus in the room, and later became impressed with the idea that her husband and children produced these smells in order to get rid of her. When first seen by Dr. Bridger, he could make nothing of the case until he examined the abdomen, where he found a curious state of matters. The position of the transverse and descending colon was occupied by a large elevated ridge, while the movements of the smaller intestine were distinctly visible through the thin abdominal walls. This condition was produced by an immense collection of hardened fæces, which it took several days, with the aid of spoon-handles, injections of glycerine, castor-oil, hot water, and the free use of aperients, to remove. Six weeks subsequently the patient had increased considerably in weight, her appetite was good, the sleep was sound, and not a trace of her delusions remained.

RICHARD NEALE, M.D.

5538. *Antuszewicz on Pneumonia Migrans.*—Dr. Victoria J. Antuszewicz, house-physician to the Zemsky Hospital in Orlov, Viatka Government, describes (*Proceedings of the Viatka Med. Society*, No. 2–6, 1886, p. 1) two cases of so-called 'wandering' or 'migrating pneumonia.' [As is known, under the name of 'pneumonia migrans,' Waldenburg, Weigand, Fischl, Friedreich, Koranyi, Kelemen, and others, have described cases of croupous pneumonia, where the inflammation, having run its course at a given portion of the lung, appears at or—*sit venia verbo*—skips to, another more or less *remote* pulmonary region; then, after resolution, the process originates at a third spot, &c.—*Rep.*] One of her cases refers to a weak, emaciated, and exhausted woman, aged 38, in whom, a few months after her recovery from protracted granular endometritis, with severe flooding, there developed itself asthenic croupous pneumonia of the middle and lower lobes of the right lung. In the morning of the sixth day the temperature fell from 40°·3 C. to 38°·6 C., and the local symptoms seemed to point to resolution. But in the evening the temperature rose again, and on the seventh day the upper lobe of the same lung became infiltrated in such a way that 'between the old diseased portion and the newly affected one there remained only a zone of healthy tissue, measuring about two and a half fingers in breadth.' On the tenth day, normal vesicular breathing was heard over the middle and lower lobes, and on the eleventh day a second crisis followed. On the twelfth day collapse occurred, while the middle and lower lobes of the same lung again became engorged. On the sixteenth day the patient died 'from cardiac and respiratory paralysis.' [Unfortunately, no necropsy was made to verify these statements.—*Rep.*] Another case ended in recovery. The patient, an undersized, anæmic woman, aged 27, was attacked by pneumonia of the lower lobe on both sides. Resolution took place only on the eleventh day. On the twenty-third day there appeared rigor, rise of the temperature to 40° C., and infiltration of the superior lobe on both sides. On the thirty-second day a new crisis occurred, the patient leaving the hospital several days later, fairly well. Dr. Antuszewicz mentions also a third case of wandering pneumonia, which she happened to observe during her student days, and which ended fatally, the patient being simultaneously attacked with petechial typhus.

V. IDELSON, M.D.

5539. *Riva on the Direct Treatment of Pulmonary Tuberculosis.*—Phthisis being now generally held to be due to a special parasite, whose site of predilection is the lung, antiparasitic treatment naturally suggests itself. Owing to the great resistance of the tubercular germ, inhalations have proved inefficacious. Surgical treatment so far has not given good results, and is not generally applicable. Professor Riva, in a paper read before the Italian Medical Association, thinks that injections into the pulmonary parenchyma offer the most chances of success. The injections should be made with a Pravaz's syringe, in an intercostal space in the axillary or the posterior region. He notes the slight effects of the injections, which cause no pain, and rarely cough, if a bronchus be injured. He has seen the evening temperature lowered. He uses turpentine, creasote with alcohol (1 to 10), water being added until the mixture becomes clouded, bichloride of mercury (0·5 to 1,000), carbolic acid, &c.

5540. *De Renzi and Reale on the Site and Force of the Apex-beat in Diseases of the Pericardium, Heart, and Great Vessels.*—From eighty observations in the medical clinic of Naples, made with the object of determining the force and site of the heart's beats in the principal diseases of the circulatory apparatus, the authors have arrived at the following conclusions. 1. In *pericarditis*, the impulse is generally strong, and situated to the left of the middle line. 2. In *insufficiency of the mitral valve*, the impulse is feeble. It is nearly always observed in the fifth intercostal space, and exceptionally only in the sixth. In about half the cases, the impulse is within (to the right of) the nipple-line; in half external, that is, to the left of the nipple-line. 3. In *mitral stenosis*, the pulsation of the heart is generally strong, with a marked impulse. The apex-beat is in the fifth intercostal space, exceptionally in the sixth, and is found to the left of the nipple-line. Only rarely is it found in the nipple-line or within it. 4. In *aortic insufficiency*, the impulse is generally strong and often heaving. In the last period of life it becomes weakened, but not conspicuously so. In the greater number of cases, the apex-beat is in the sixth intercostal space, more rarely in the fifth, and still more seldom in the seventh space. In almost all cases, the apex-beat is outside the left nipple-line; between, that is, this line and the anterior axillary line. 5. In *aortic stenosis*, the impulse is feeble. The apex-beat is generally felt in the fifth intercostal space, a little exterior to the nipple-line. 6. In a case of *congenital stenosis of the pulmonary valves*, the heart's impulse, of medium intensity, was found in the fourth intercostal space between the parasternal and nipple lines. 7. In cases of *aneurysm of the thoracic aorta*, the apex-beat was nearly always felt in the fifth intercostal space, in the nipple-line or to the left of it. 8. From a comparative examination of the heart's impulse in all the diseases of the heart, it is found that the impulse is displaced towards the left in hypertrophy of the right ventricle, as in mitral stenosis; and is displaced downwards in eccentric hypertrophy of the left ventricle. It is, moreover, stronger in eccentric hypertrophy of the left ventricle, and weak if the hypertrophy, depending on aortic stenosis, be simple or concentric. The weakness of the impulse in this last case is perhaps due to the heart not being displaced downwards and forwards during the systole.

5541. *Levi on Primary Diphtheritic Nephritis.*—In a paper read before the Eleventh Congress of the Italian Medical Association, held at Perugia, Prof. Levi relates the history of two cases of primary diphtheritic nephritis, occurring in his clinic at Florence, and which he believes to be the first and only ones yet published. The cases were those of two children, ill at the same time with anasarca, at first of the face, then diffuse, slight fever, scanty urine, with abundant albumen, urates and phosphates also abundant, and a few blood-corpuscles. The symptoms were those of true acute nephritis not caused by cold. From the rarity of primary nephritis in children, he examined the history of the cases very thoroughly, and found that, three or four days before the appearance of the first symptoms of the nephritis, a guinea-pig had died in the same house of rapid diphtheria. There were no signs of diphtheria in the children during life. Prof. Levi maintains the diphtheritic origin of the nephritis, and regards these cases as examples of primary renal diphtheria, with direct localisation of the diphtheritic principle in the epithelium of the glomeruli and renal tubules. He notes that, while the common secondary diphtheritic affection of the kidneys rarely takes the appearance, and follows the course, of true nephritis, in these two cases, in which the morbid principle spared the fauces and larynx and attacked the kidneys, the symptoms and course were those of typical nephritis. In scarlatina, measles, and small-pox, cases are admitted to occur without exanthem, and scarlatinal nephritis may occur without preceding exanthem; but cases of nephritis without diphtheria of the fauces are not admitted, although he has seen undoubted examples. He holds, lastly, that these cases support the doctrine that in diphtheria there is a general infection, and not a primary and always local morbid process. In the discussion which followed, Dr. Del Fabbro said that he had seen eight similar cases; he had also observed cases of cutaneous diphtheria without alteration of the fauces.

G. D'ARCY ADAMS, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5542. WILSON.—Viburnum Prunifolium in Abortion and Miscarriage. (*Brit. Med. Jour.*, April 1886, p. 640.)

5543. CAMPBELL.—Viburnum Prunifolium in Abortion. (*Brit. Med. Jour.*, February 1886, p. 391.)

5544. LEES.—The Neurotic Treatment of Catarrh. (*Lancet*, February, p. 393.)

5545. ORWIN.—Galium Aparine in Psoriasis. (*Brit. Med. Jour.*, March, p. 588.)

5546. SUCKLING.—Pure Terebene in Winter Cough. (*Brit. Med. Jour.*, March, p. 541.)

5547. BLENKINSOP.—Inhalation in Pulmonary Diseases. (*Lancet*, March, p. 586.)

5548. HERSCHELL.—Papaïn and its Use in the Treatment of Dyspepsia. (*Brit. Med. Jour.*, April, p. 640.)

5549. BLOOMFIELD.—Two Cases of Antipyrin Rash. (*Practitioner*, April.)

5550. POTTER.—On Antipyrin in Pernicious Forms of Malarial Fevers. (*Lancet*, April, p. 695.)

5551. ORMEROD.—Iodide of Potassium in Spasmodic Asthma. (*Practitioner*, April 1886.)

5552. PARK.—White Peat Powder as a Dressing. (*Practitioner*, April 1886.)

5553. BATCHELOR.—The Treatment of Hæmoptysis. (*Brit. Med. Jour.*, April, p. 689.)

5554. SPRIMON, VASILY F.—On Urethan as a Hypnotic. (*Meditz. Obozr.*, Fasc. xxii, 1885, p. 916.)

5555. SNÏATKOFF, A.—Notes on the Internal Use of Naphthaline. (*Meditz. Obozr.*, Fasc. xix, 1885, pp. 630–32.)

5556. ANTONIU, I.—On the Administration of Digitalis in Large Repeated Doses in Pneumonia. (*Spitalul*, February 1886, pp. 51–53.)

5557. BUKOWSKI, A.—On the Examination of Pine Wood-wool. (*Wiadomosci Farmaceutyczne*, No. 5, 1886.)

5558. PARFIANOVITCH, N. A.—A Case of Poisoning by Santonine Tablets. (*Proceedings of the Kaluga Medical Society*, 1886, April 6, pp. 12–13.)

5559. DE RENZI, PROFESSOR.—Studies in Clinical Medicine: Pulmonary Tuberculosis. (*Gazz. Med. Ital. Lombard.*, Jan. 30, 1886.)

5560. CURCI, H.—Fresh Researches on the Biological Action of Silver. (*La Medicina Contemp.*, March 1886.)

5561. STURGES.—Hypophosphite of Soda in 'Tubercular' Inflammation in Children. (*Westminster Hospital Reports*, vol. i.)

5562. LEYDEN, STUTZER, AND BRIEGER.—On Saccharine. (*Deutsche Med. Wochensch.*, No. 14, 1886.)

5563. BOUCHARD.—Treatment of Typhoid Fever. (*Union Médicale*, April 3, 1886.)

5564. DEBOVE, M.—The Influence of Water on Nutrition. (*Jour. des Sociétés Scientifiques*, April 10, 1886.)

5565. MAIRET AND COMBEMALE.—On the Therapeutic Properties of Urethan.

ART. 5542. *Wilson on Viburnum Prunifolium in Abortion.*—In the *Brit. Med. Jour.*, April 1886, p. 640, Mr. J. H. Wilson states that he considers the use of viburnum prunifolium of immense value in cases of threatened miscarriage. It does not succeed in every case, but when it has failed the author has generally found special causes for the failure. Sometimes the ovum has become detached before the medicine is commenced, or there is some syphilitic taint. In no case has the author met with any ill results from the use of the drug. In two cases the patients complained of headache. Taken at intervals during the whole course of pregnancy, it acts as a tonic and sedative. It is not necessary to keep the patient in the horizontal position more than for a few days if this drug be given, whereas in many cases, under the old treatment, abortion has taken place though many weeks have been spent in bed. The drug is best administered as pills, in four-grain doses. These are manufactured by Parke, Davis, & Co., and are gelatine-coated, as they absorb moisture very easily, but when made in this manner they will keep any length of time. It is advisable for patients who are liable to miscarry to keep a supply of these pills always at hand, so that they may commence taking them at the first onset of symptoms. In subsequent numbers, the value of the drug in threatened miscarriage is confirmed by several observers.

5543. *Campbell on Viburnum Prunifolium in Abortion.*—In the *Brit. Med. Jour.*, February 1886, p. 391, Dr. Macfie Campbell endorses the good opinion formed by Mr. Wilson of the use of viburnum prunifolium in cases of threatened miscarriage (*Liverpool Med.-Chir. Journal*, July 1885). Notes are given of six cases in which the drug was administered, and in five of them the miscarriage was averted. The author gives doses of two to three grains of the solid extract three times a day; but if the symptoms be severe, it is better to give a dose every four hours to commence with. Messrs. Clay & Abraham, of Liverpool, prepare the solid extract, which is better than the liquid extract, as it can be made into pills, thus not causing nausea.

5544. *Lees on the Treatment of Catarrh.*—In the *Lancet*, February 1886, p. 393, Dr. Lees contributes a paper on the subject of catarrh, or 'common cold in the head.' The author states that catarrh is a neurosis in which the vaso-motor system is largely concerned. Acting on this theory, the remedies that we must look to for cure must be neurotic. There are three indications for treatment: 1, to soothe the reflex disturbance of the central nervous system; 2, to quiet the local congestion and hyperæsthesia of the nasal mucous membrane; 3, to arrest the flux if it have already commenced. The first indication may to some extent be met by the administration of opium or chloral-hydrate, but the safest nervine sedative is bromide of potassium. The second indication is most satisfactorily met by the use of cucaine. The occasional painting of the mucous membrane, especially over the inferior turbinated bone, with a 4 per cent. solution of hydrochlorate of cucaine, gives instant relief. The third indication is met by the use of belladonna. The plan adopted by the author to arrest a case of catarrh is as follows. When a cold commences, a dose of from 40 to 60 grains of bromide of potassium is given. This dose is repeated in six hours, and if necessary a third dose is given at a similar interval. As soon as the flux commences, 15 minims of tincture of belladonna is given every hour or two until the throat feels dry. The painting of the nasal mucous membrane with cucaine gives great relief, and aids in completing the cure.

5545. *Orwin on Galium Aparine in Psoriasis.*—In the *Brit. Med. Jour.*, March 1886, p. 588, Surgeon-Major Orwin states that he had a patient who suffered for upwards of twelve months from psoriasis of the left hand. No benefit was derived from treatment by chrysophanic acid, tar ointment, arsenic, &c. The author then tried galium aparine, applied as a poultice to the hand, and also gave her an infusion of it to drink. In less than three weeks the skin had resumed its normal state, and the patient was cured. [This is an old remedy much neglected, because easily obtained from every hedgerow.—*Vide* sect. 404: 3 *Medical Digest.*]

5546. *Suckling on Pure Terebene in Winter Cough.*—In the *Brit. Med. Jour.*, March 1886, p. 541, Dr. Suckling gives an abstract of 100 cases of winter cough which were treated with pure terebene. The dose given was five drops every four hours, increased to ten drops in the course of one or two days. Of the 100 cases, there were 94 cases of chronic bronchitis and 6 of chronic phthisis. Of the cases of chronic bronchitis, 68 were relieved; and of the cases of phthisis 4 were relieved. Twenty-eight patients were not relieved; 11 complained of nausea, 11 of headache, 10 of thirst, 2 of vertigo, 1 complained of a burning sensation at the stomach, and 1 that he was always passing urine. The symptom most constantly relieved was dyspnœa. The 72 patients benefited all said that the medicine eased their breathing, but many asked for medicine in addition to ease the cough.

5547. *Blenkinsop on Inhalation in Pulmonary Diseases.*—In the *Lancet*, March 1886, p. 586, Dr.

Blenkinsop contributes a paper upon the treatment of pulmonary diseases by means of inhalations. In speaking of inhalation, the author includes two allied processes: viz., vaporisation and fumigation. The method that proves most useful, and offers the greatest advantage over steam, in acute cases, is vaporisation of dry air. Dry medicated vapours are produced by volatilising powders or tinctures, or by burning medicinal herbs in a suitable apparatus without the aid of steam. The author states that in his experience he finds moist vaporisation does harm, except in cases of laryngeal phthisis. Most of the inhalers usually employed in the administration of medicated vapours are based upon wrong principles; the majority demand forced instead of easy inspiration. The inhaler lately introduced and adopted by Dr. Blenkinsop remedies most of the drawbacks met with in other instruments. This apparatus consists of two portions, connected by a flexible piece of tubing. One part consists of a mask with a communicating chamber containing sponge or felt. On each side are slits, and along the crest perforations for the escape of expired air. The other part consists of a vaporiser, about five inches in width, and is in three sections, the lowest of which contains a spirit-lamp. Over this is the cover, surmounted by a chamber which is used either as a receptacle for powders or for generating hot air, and is fitted at its base with a disc of talc. The two main segments are perforated for the admission of air to feed the lamps, whilst two curved air-tubes communicate with the vapour-chamber. Tinctures, when prescribed for inhalation, will be poured over the felt at the base of the mask. Here they become volatilised by the hot vapour passing from the air-chamber of the vaporiser. When powders are used, they must be placed in the chamber over the lamp to be vaporised, the fumes being inhaled with ether, chloroform, or any tincture that may be desired. The most frequently used remedies are: carbolic acid, creasote, terebene, eucalyptus, thymol, pine-oil, iodine, iodoform, &c.

5548. *Herschell on Papaïn in Dyspepsia.*—In the *Brit. Med. Jour.*, April 1886, p. 640, Dr. G. Herschell contributes an article on the use of papaïn in the treatment of dyspepsia. Papaïn is a powder, prepared from the juice of the carica papaya, or melon-tree. There are two varieties of this drug; one prepared by Christy, the other by Finkler. This latter is the most useful preparation, and is more nearly allied to pepsin and pancreatin; it is less energetic than the preparation sold by Christy, but its action is more prolonged. It has been found valuable in the following classes of cases. 1. *Chronic Stomach-Catarrhs of Children.*—These cases are often met with in children, and are characterised by loss of appetite, pallor, pasty complexion, loss of sleep, irritability, &c. If this state continue long, the child emaciates, as the mucous membrane of the stomach and intestines prevent the absorption of food. The author finds much benefit in these cases from the following formula. Papaïn (Finkler) gr. ½ to gr. j., sacch. lactis gr. j., sodii bicarb. gr. v.; to be taken after every meal. A drop or two of tincture of nux vomica before the meal is also good. 2. *Acid Dyspepsia.*—In this class of cases the drug is thus given. Papaïn (Finkler) gr. ij., sacch. lactis gr. v; to be taken one hour after meals with the following draught. Sodii bicarb. gr. xv., glycerin. acid. carbolic. ♏viii., spirit. ammon. aromat. ♏xx., aq. ad ℥jss. A smaller dose of papaïn, taken one hour after a meal, is better than a larger dose taken with the meal. 3. *Cases where Severe Gastric Pain coming on shortly after Eating is the Prominent Symptom.*—In these cases, the author has many times found complete relief from the use of this drug. Papaïn will probably come into extensive use as a peptonising agent in the same way as pepsin and pancreatin are at present used. [For early notices of the value of this drug, *see* sect. 407 : 5 of the *Medical Digest.*]

5549. *Bloomfield on Two Cases of Antipyrin Rash.*—In the *Practitioner*, April 1886, Mr. Bloomfield records two cases in which a rash was produced during the administration of small doses of antipyrin. One patient, a coachman aged 28, who was suffering from acute phthisis, was given seven grains of antipyrin three times a day. After ten days the dose was increased to 12 grains. After continuing this dose three days, a rash appeared. It began during the night, symmetrically situated on the extensor surface of each knee. It consisted ot erythematous patches raised slightly above the level of the skin, of an Indian-red colour, which faded completely on pressure. A few vesicles appeared here and there. The patches of erythema were circular in shape and varied from one-eighth to half an inch in diameter. The antipyrin was stopped, but the rash continued to extend until it covered the whole body. It caused no inconvenience beyond a little itching. The second case was very similar, and occurred in a young man, the subject of alcoholism and phthisis.

5550. *Potter on Antipyrin in Pernicious Forms of Malarial Fevers.*—In the *Lancet*, April 1886, p. 695, Mr. J. H. Potter writes, that in Bombay he met with many cases of fever of a remittent type which were not amenable to the ordinary treatment by quinine, arsenic, or aconite with diaphoretics. These cases were most successfully treated by large and repeated doses of antipyrin, until the temperature was reduced to the normal standard. A few cases, in which the effects of this treatment were unsatisfactory, eventually showed that complications existed, such as phthisis or abscess of the liver.

5551. *Ormerod on Iodide of Potassium in Spasmodic Asthma.*—In the *Practitioner*, April 1886, Dr. Ormerod puts in a tabular form the chief facts relating to thirty-six cases of asthma treated with iodide of potassium. All suffered from difficulty of breathing coming on suddenly, usually in the early morning during sleep, passing off after a time, so as to leave the patient comparatively well, but generally recurring in a regular fashion, and at regular intervals. The iodide was given alone and proved a failure in nine out of the thirty-six cases. In some, where the asthma was secondary to chronic lung-disease, the drug certainly did good. Its effects on the nocturnal attacks of dyspnœa were often remarkable, though a troublesome cough, or a certain shortness of breath on rising in the morning, often persisted. The author compares the action of iodide of potassium in asthma to the action of bromide of potassium in epilepsy. Both diseases are probably due to some fault in the central nervous system, though in both some extrinsic cause may determine an attack. Both remedies act upon the capital symptom. The iodide controls the sudden and severe nocturnal dyspnœa, rather than the cough and shortness of breath. In confirmed cases the drug is not curative; yet relapses, on discontinuing the iodide, are not so speedy as in cases of epilepsy, after discontinuing the bromides.

5552. *Park on White Peat Powder as a Surgical Dressing.*—In the *Practitioner*, April 1886, Dr. R. Park contributes his experiences of the use of white peat powder as a surgical dressing. In a case of acute eczema of both arms, it answered very well as a siccative; and when the case became subacute, the powder was combined with vaseline and bismuth oleate, proving most useful in allaying the irritation, and promoted rapid healing. In cases of offensive perspiration of the feet and toes, or of the hands, and even of the perinæum, it answered most admirably. In the form of an ointment with vaseline, or as a soap odorated by eucalyptus extract, the powder gave great benefit to many cases of old-standing psoriasis, and in one case of lepra, one of acne rosacea, and one of eczema rimosum of the hands and lips, much good was obtained. A case of erysipelas of the head, occurring in a man aged 40, was treated most successfully by an ointment consisting of iodoform and the peat powder, and this combination forms one of the most valuable dressings that can be obtained, especially in cases of chancroid. A severe case of sprained ankle was treated in the following manner. Two pieces of flannel were taken and sewn up the centre; between the folds a paste, formed of the peat powder, milk of lime, and sodium silicate was freely laid, and the foot and ankle were covered with this. By this means a very light comfortable splint was formed. In cases of fœtid ulcers of the legs, nothing can be better than the combination of iodoform with this powder, and its effect is also most marked in cases of strumous ulcer about the jaw and neck, &c. It will also prove an useful addition in the treatment of cases of ulceration of the cervix uteri, and in healing raw surfaces after the application of the cautery. (*Vide* Appendix, *Medical Digest*, 161 : 2.)

5553. *Batchelor on the Treatment of Hæmoptysis.*—In the *Brit. Med. Jour.*, April 1886, p. 689, Mr. Batchelor, in speaking of hæmoptysis, believes that the tendency to bleed occurs with the gouty diathesis. Most patients inheriting this diathesis, in youth, bleed from the nose; later in life, from the rectum or uterus, whilst some bleed from the lungs. Those who bleed from the lungs need not necessarily descend from phthisical ancestors; a badly formed thorax, interfering with due expansion, may be a sufficient cause. These cases are best treated by diet, alcohol and meat being pernicious. After hæmorrhage has occurred, it is best to give the patient saline purgatives, diuretics, and diaphoretics; and as these sufferers are always very nervous, it is necessary to give them a nervine tonic. A dose of opium may be also given to allay the nervous system, but cannabis Indica answers better. The continuous administration of opium in these cases is very bad. RICHARD NEALE, M.D.

5554. *Sprimon on Urethan as a Hypnotic.*—In an editorial note in the *Meditz. Obozr.*, Fasc. xxii., 1885, p. 916, Dr. Vasily F. Sprimon, of Moscow, writes that, to verify the statements of Jaksch, he undertook a course of experiments on himself, patients, and animals (rabbits and cats). He finds that subcutaneous injection of half a gramme produces no effect in these animals. The internal administration of 1 gramme in man is not, also, followed by any action (three experiments); that of 2 grammes produces a sedative and slow hypnotic action, the patient falling asleep in half to one hour. A dose of 3½ grammes gives a quiet sleep, on awaking from which some heaviness of the head is felt. Of other accessory phenomena, there were noted noises in the ears and congestion of the conjunctivæ. The hypodermic injection of urethan is painless, even when 2 grammes are introduced (an experiment on himself).

5555. *Sniatkoff on the Internal Use of Naphthaline.*—In the *Meditz. Obozr.*, Fasc. xix., 1885, p. 630, Dr. A. Sniatkoff, of Vologda, furnishes the results of his observations on the therapeutic action of naphthaline, which he administered in two-gramme daily doses in capsules or powder. No symptoms of gastric irritation were ever observed, and only once (in a case of intestinal tuberculosis) the drug caused abdominal pain and increased diarrhœa. Sometimes ('in less than half of the cases') an increase in the frequency of micturition, and slight burning in the urethra, as well as a more or less intense carmine-red discoloration of urine, occurred. The author is inclined to attribute the latter symptoms to an impurity of the preparation used, since they were absent when he subsequently employed a notoriously pure drug. In several cases of dyspepsia, naphthaline rapidly arrested all symptoms caused by decomposition of gastric contents. In a case of acute gastro-enteritis in an adult, diarrhœa ceased after one day's treatment. As rapidly, a case of infantile summer diarrhœa was cured. In several cases of chronic gastro-enteritis in adults, the drug speedily removed nausea, eructation, heartburn, distension of the belly, and sometimes improved appetite, but did not relieve constipation, while an obstinate case of diarrhœa (where opium, bismuth, nitrate of silver, lead, &c., had previously failed) yielded to naphthaline in four days (to 8 grammes of the drug). In two severe cases of dysentery, cure followed in ten and five days under the administration of 10 grains of naphthaline with 10 grains of subnitrate of bismuth, four times a day. In two cases of enteric fever, naphthaline seemed to make the symptoms still worse. The author's general conclusion is that naphthaline represents a good antiseptic and antifermentative for the gastro-intestinal tract, in the absence of typhoid or tuberculous ulcerations. In that regard, the author places the drug above carbolic acid, creasote, thymol ('which, being taken internally, do not reach the lower portion of the bowels'), and even at a higher clinical level than calomel. The antiseptic action of the latter drug undoubtedly reaches deep tissues, while that of naphthaline limits itself to the surface; but calomel possesses a strong purgative action, its effects are inconstant, and its use may lead to mercurialism.

5556. *Antoniu on Large Doses of Digitalis in Pneumonia.*—In a Roumanian medical journal, *Spitalul*, February 1886, p. 51, Dr. I. Antoniu, of the Military Central Hospital in Bucharest, describes an interesting case of a weak soldier, aged 23, who was admitted to Professor Z. Petrescu's wards about twenty-four hours after an initial severe rigor, with grave (*forte alarmâtóre*) general and local symptoms of pneumonia. At once an infusion of digitalis (four grammes of the leaves to 200 grammes of water, the whole to be taken in frequent doses during the day) was given. The same treatment was pursued during the next day (the third of the disease). On the morning of the fourth day the temperature suddenly fell from 39°·5 C. to 36°·3 C., and the pulse from 92 to 60 a minute. On the fifth, the temperature was oscillating between 36°·3 and 37°, a marked amelioration in the local symptoms being observed. On the sixth, the patient's general state was quite satisfactory. On the tenth, he was practically well, but was retained under observation for other eight days. For several days the pulse continued to be as slow as 44 to 48 a minute, it being still 52 twelve days after the last (second) dose of the drug.

5557. *Bukowski on Pine Wood-wool.*—In a Polish pharmaceutical periodical, the *Wiadomosci Farmaceutyczne*, No. 5, 1886, p. 95, Mr. A. Bukowski, of Professor Manthien's pharmaceutical laboratory in Warsaw, publishes the results of his careful microscopical and chemical examination of two specimens of so-called pine-wood-wool (*Welna Sosnowa*, Pol.) as extensively used nowadays for making various articles of clothing, the fabric being much vaunted in puffing advertisements as 'an indispensable domestic means for prevention of rheumatism, gout, chilling, &c.' One of the specimens was obtained from Mr. Strakacz, a dealer in Warsaw; another was nothing less than the famous Lairitz's *Wald-woll-gicht-watte* (anti-gout wood-wool) received by the author directly from Leipsic. Strakacz's article proved to be a mixture of cotton-wool with a slight (*nieznacznej*) quantity of sheep-wool, while Lairitz's article consisted of cotton-wool, hemp-fibres, and sheep-wool, both of the mixtures being stained and aromatised with extract of needles of *Pinus silvestris*. In other words, these specimens, which pretend to be prepared from pine-needles and accordingly are sold at a high price (Lairitz's at 5 marks per kilogramme, Strakacz's at 5 roubles per pound) are pure and simple falsifications. In conclusion, Mr. Bukowski points out that the same has been proved by Mr. Th. Greenish (*Pharmac. Journ. and Transact.*, 1884) in regard to such British and American articles as 'forest-wool, pine-wool, fir-tree-wool,' &c.

5558. *Parfianovitch on a Case of Poisoning by Santonine.*—Dr. N. A. Parfianovitch, of Kaluga, records (*Proceedings of the Kaluga Medical Society*, April 6, 1886, p. 12) the case of a boy, aged 2½, who on an empty stomach took four santonine tablets, each containing half a grain of the drug. Half an hour later, there appeared convulsive movements, vomiting, intense pallor of the face with a bluish tint, ptosis, dilatation of the pupils, shallow breathing, almost imperceptible pulse, extreme prostration (so extreme, indeed, that the parents thought he was going to die). After several spoonfuls of very strong tea with red wine, the cardiac action became stronger, and the child fell asleep for an hour, to get up fairly well and cheerful. The urine voided by that time was of a dark yellow colour, and stained linen. Dr. Parfianovitch advises caution in administering santonine, especially in the shape of lozenges or discs (with their rarely precise dosage). [Meanwhile, in the *Meditz. Vestnik*, Nos. 10 and 11, 1884, Dr. V. N. Benzengr, of Moscow, strongly complains that the *Pharm. Rossica* prescribes only six grains of santonine as the highest daily dose for an adult. He thinks the dose to be ineffective, and in his own pediatric practice administers as a daily dose as many grains of santonine as the child is years old—that dose being taken for four successive days. During his forty years' practice, Dr. Benzengr has never seen any serious accessory effects, except slight giddiness, xanthopsy, and bright orange discoloration of urine. For an adult, a daily dose of even twelve or fifteen grains is harmless, according to the author.—*Rep.*]

V. Idelson, M.D.

5559. *De Renzi on the Treatment of Pulmonary Tuberculosis.*—The following is the treatment employed by Professor De Renzi. As tonics, he prefers decoctions of cinchona and Iceland moss, phosphate of lime, Scott's emulsion, desiccated blood, &c. As antiseptics, he uses internally creasote, alkaline carbonates, and iodoform. The external or antiseptic treatment consists of inhalations of ozone, nitrous vapours, iodoform and turpentine, rarefied air, followed by inspirations of compressed iodised air. In the treatment of pulmonary phthisis in 1884-85, inhalations did more good than other remedies, except perhaps the administration of alkalies. The body-weight was increased in half the cases treated by inhalations of ozone, and in three-quarters of those treated by expiration into rarefied air followed by inspirations of compressed iodised air, and in three-quarters of those treated by inhalations of nitrous vapours. General improvement, shown by increased body-weight, &c., was most marked in those treated with alkaline carbonates. The fever generally was not modified, nor was the frequency of the pulse or of the respirations. Inhalations of ozone had the least influence on the temperature, but reduced the respirations by a third during the inhalation. Expiration in rarefied air and inspiration of compressed iodised air caused a less marked but more lasting effect on the fever, pulse, and respirations. The respiratory capacity and pressure were increased more by this method than by any other. The cough and expectoration were notably diminished, and in some cases the night-sweats. In all the patients treated by inhalations of nitrous vapour, the quantity of urine passed was increased, the specific gravity being lessened. With inhalations of ozone, the urine became strongly and progressively acid. Treatment by alkaline carbonates led to general improvement and increase in body-weight in more than two-thirds of the cases so treated. The temperature fell, and the pulse became less frequent; the appetite improved, as well as the digestion. Professor De Renzi recommends, as having the most decided influence in the course of the disease, the treatment by alkalies, and the expiration into rarefied air with inspiration of compressed iodised air. These last cause increase of body-weight, diminish the frequency of respiration, rendering the breathing more easy, increase the respiratory capacity and the pressure of inspiration and expiration, lessen the expectoration, diminish the quantity of urea, and sometimes influence beneficially the other phenomena of the disease, diarrhœa, sweating, &c.

5560. *Curci on the Biological Action of Silver.*—The author finds that the predominant action of silver is to cause paralysis of the central nervous system. It diminishes and then abolishes reflex movements and sensation, voluntary movement still persisting; finally, paresis of the lower limbs follows; the principal action is thus exerted on the sensory spinal and cerebral centres. It does not destroy the excitability of the motor nerves and of the muscles. It acts on the medulla oblongata and abolishes all reflex movements in the face, but only after all those movements depending on the spinal cord are abolished. It paralyses with great rapidity the respiratory centre, and the first phenomena of its action are disturbances of respiration and death by pulmonary œdema, or by respiratory paralysis. In frogs, convulsions are observed before paralysis. The respiration is always arrested before the circulation. Silver causes alterations in the organs, especially granular fatty degeneration, this chiefly in chronic poisoning, in which also hyperæmia and catarrh of the air-passages occurs; in acute poisoning, hyperæmia and œdema of the lung, with transudation into the vesicles, is met with. Silver is absorbed by the digestive tract, but its salts are altered, and the metal is in part reduced and becomes deposited in the tissues. This accounts for its slight activity therapeutically, and in experiments on animals. This deposit causes the dark discoloration of the mucous membrane, viscera, and skin known as argyria, which is observed in man after the prolonged use of silver nitrate. The action of silver on the nervous system being fairly well understood from the researches of other observers, Curci's studies were especially directed to its action on the heart and circulation, to determine the cause of the hyperæmia and œdema of the lungs. In his experiments he used a double hyposulphite of sodium and silver, this salt being very soluble, not coagulating albumen, non-irritant, and readily absorbable by the subcutaneous connective tissue. In frogs, silver paralyses the excito-motor nerve-apparatus of the heart, and in this way produces slowing and progressive weakening of the systole and arrest in diastole. It does not paralyse the muscular fibre. In mammals, silver acts on the bulbar vaso-motor centre, at first stimulating it and therefore increasing the arterial pressure, then paralysing it and lowering the pressure. It causes the peripheral arterial vessels to contract, but has no action on the veins. It acts on the nerves and excito-motor ganglia of the heart, gradually paralysing them, causing the heart to become flaccid, the pulse weaker and smaller, and finally paralysing it. The paralysis of the central vaso-motor nervous system, and particularly of the pulmonary vaso-motor fibres, aided perhaps by the cardiac paralysis, is the cause of the congestion and œdema of the lungs. Therapeutically, silver, owing to its power of diminishing and abolishing the excitability of the sensory, cerebral, and spinal nerve-centres, is rationally indicated in epilepsy, locomotor ataxy, and other diseases of the great nervous centres, characterised by increased excitability. From its action on the respiratory centre, it is useful in nervous or idiopathic asthma. Since it also diminishes and abolishes the excitability of the ganglia and excito-motor nerves of the heart, it is useful in some cases of angina pectoris. It probably also calms the morbid excitability of the aortic and cardiac plexuses of the sympathetic. Curci recommends that the internal use of the nitrate should be abandoned, since in contact with the mucous membrane it is rapidly altered, and may cause the dark discoloration known as argyria, and this without its true action on the nervous system ever being obtained. He recommends instead the double hyposulphite of sodium and silver, which is very soluble in water, is not caustic, does not coagulate the albuminoids, is very diffusible and promptly absorbed by the mucous membrane and subcutaneous connective tissue. Its taste is sweet and slightly nauseous; it should be given fasting or hypodermically. The dose by the mouth is from 5 to 20 centigrammes daily, or 1 to 5 centigrammes hypodermically. Its action on the nervous system is surely and quickly obtained, and the danger of argyria is avoided.

G. D'ARCY ADAMS, M.D.

5561. *Sturges on Hypophosphite of Soda in 'Tubercular' Inflammation in Children.*—Dr. Octavius Sturges narrates six cases (*Westminster Hospital Reports*, vol. i., 1885) of 'tubercular' inflammation in children treated by large doses of hypophosphite of soda after other remedies had failed. He had been led to the following conclusions: (1) that doses of ten to twenty grains might be given to even young children, and that the large dose was sometimes of service when a smaller failed; (2) that, when benefit was derived from the use of the drug, it was in cases of (*a*) chronic inflammation occurring in 'tubercular' children, and of (*b*) the wasting and pyrexia, which, without any distinct localised seat of mischief, sometimes precede the actual development of acute general tuberculosis in early life. DAWSON WILLIAMS, M.D.

5562. *Leyden, Stutzer, and Brieger on Saccharine.*—On March 15, Dr. Leyden brought before the notice of the Verein für innere Medicin the substance called saccharine, which he considers to be likely to play an important part in medicine. Discovered recently by Fahlberg, of New York (*see* LONDON MEDICAL RECORD for April 15, Article 5353), it was exhibited last year at the Exhibition in Antwerp. As to taste, it closely resembles sugar, while it is not a hydrocarbon, but rather a derivative of benzoic acid. Its sweetness is fifty times greater than that of sugar. Dr. A. Stutzer, of Bonn, has written on it, proving that it agrees with the human and animal organisms, containing no poison, or anything that interferes with digestion. The taste is not as pleasant as that of sugar, yet by no means disagreeable. Patients have enjoyed tea or coffee sweetened with it. An interesting question is, in how far this substance may be used in the diet of diabetic subjects. Dr. Stutzer has used it in such a case for half a year to sweeten the food, without the slightest bad effects. Thus it may tend to lessen the sufferings of such patients, who find it hard to do without any sugar. 'It is hardly applicable to vegetables' (as prepared in Germany, we presume), 'since it is decomposed in an acid solution, but peas and beans might be sweetened with it.' The chief difficulty in diabetic diet is to find a substitute for bread. The bread at present in use for diabetic subjects soon palls on the taste. Dr. Leyden has had diabetic almond bread prepared with saccharine (raised with bicarbonate of soda and tartaric acid) in the form of bread and biscuits. This has a pleasant taste, and might be suitable for a diabetic diet. Speaking on the same subject, Dr. Brieger stated that saccharine was the first sweet substance synthetically prepared. Prepared from benzoic acid, it is an anhydro-ortho-sulphaminic acid. Fahlberg prepares it from toluol. It is more easily soluble in hot water or alcohol, but it requires soda; hence its unfitness for use with acid food. It could not be given in powders. It furthers the transformation of starch into sugar by the gastric juice, and is a weak antiseptic. It is soon excreted in the urine, but does not appear in the saliva or the milk. It cannot be taken generally as a substitute for sugar, until it is known to possess nutritive qualities.

JOHN ELLIOTT.

5563. *Bouchard on the Treatment of Typhoid Fever.*—M. Bouchard, in treating typhoid fever, substitutes tepid baths, which should gradually grow cold, for cold baths. The bath, he considers, should contain sufficient water to cover the shoulders of the patient, and the shirt should be kept on. The bath must be arranged in such a manner that hot or cold water can be easily added, and surplus water allowed to run off. The rectal temperature is to be ascertained before the bath is given. The water must be lowered two degrees in temperature every ten minutes, until it has fallen to 30° C. (86° F.). The patient remains in the bath at that temperature for ten minutes. He is then well dried, a warm dry shirt is put on, and he is carried into bed, wrapped in a warm blanket. These baths are given as soon as the diagnosis is decided, and are continued until the rectal temperature is maintained at 37°·5 C. (98°·6 F.). Eight baths should be taken within twenty-four hours, but towards the end of the fever three or four are found sufficient. The advantage of these tepid baths is that immersion is not disagreeable to the patient, as is the case with a cold bath. The temperature is lowered by their influence, and the state of stupor typical of typhoid fever rarely sets in. Sleeplessness also disappears. Delirium, ataxy, and headache are greatly modified. Tetaniform muscular contractions have, in some instances, disappeared after three baths. Dryness of the tongue and mouth is also thoroughly relieved. When the temperature is not sufficiently lowered by tepid baths, M. Bouchard gives quinine. This mode of treatment is sometimes followed by slightly disagreeable results. The epidermis of the soles of the feet and palms of the hands may be raised. It then cracks, and a painful swelling of the axillary or inguinal glands may appear; sometimes after fifteen days a purulent area below the derma forms itself; this is generally painless. It is, however, necessary for the physician to search for the purulent blister, and make an incision to let out the pus. The frequency of the baths and the length of time which they last are sometimes very trying. If syncope occur before, during, or immediately after the baths, they should be discontinued; and likewise in cases of intestinal hæmorrhage, perforation, and peritonitis. The appearance of the catamenia need not prevent the use of the baths. In pulmonary affections they should not be used; but hypostatic congestion accompanying typhoid fever need not be considered as a contra-indication.

5564. *Debove on the Influence of Water on Nutrition.*—At a recent meeting of the Société Médicale des Hôpitaux, M. Debove stated that so many objections had been raised against the method he had adopted in making his experiments to ascertain the influence of water on nutrition, that he had subsequently made a fresh series of control experiments. In this series, he had selected none but perfectly healthy individuals. These persons were fed on raw meat, new bread, and water. Either raw meat, or meat boiled to shreds must be given, because the chemical constitution and nutritive qualities of meat vary according to the way in which it is prepared. The daily bread should always be equally well baked. M. Flameng, M. Debove's house-surgeon, adopted an uniform diet for thirty-eight days. When he reached a weight that remained stationary, the allowance of water was doubled and trebled, but the rations of bread and meat remained the same. During the second part of the experiment, neither the weight nor the excretion of urea increased. Two other persons were submitted to the same treatment. Their weight also remained stationary; so did the quantity of urea excreted. M. Debove, therefore, concluded that the injection of more or less large quantities of water did not exert any influence on nutrition when the quantity reached a certain degree. He admitted, with Dr. Dujardin-Beaumetz, that austere abstinence from water would disturb the digestive faculties; therefore persons deprived of water grew thin.

5565. *Mairet and Combemale on the Therapeutic Properties of Urethan.*—MM. Mairet and Combemale have addressed the following communication to the Academy of Sciences. 'We have administered urethan 300 times to 37 insane patients with whose form of insanity we were acquainted. The doses varied from ½ a gramme to 5 grammes, given within twenty-four hours. When we administered urethan to insane patients with whose symptoms and condition we were not thoroughly acquainted, it was given to them several times. The mental affections of the patients may be classed as follows: mania, 13; lypemania, 2; imaginary persecution, with perverted sensorial faculties, 3; insanity consecutive on mania or lypemania, 9; insanity consecutive on atheromasia, 3; paralytic madness, 7. In paralytic insanity and insanity from atheromasia, strong doses of urethan did not have any hypnotic effect. In the other forms enumerated, the effect varied according to the excited state of the patient; when this is very intense, the drug has no hypnotic effect, but appears to increase the excitement. In less excited conditions urethan produces calm and regular sleep, free from nightmare; the patient wakes up easily on hearing a slight noise, or from any other disturbing influence, but quickly falls asleep again. Sleep from urethan generally lasts from five to seven hours, and is not followed by any disagreeable sensation. Nutrition does not appear to be affected by urethan, even though it be given for fifteen days consecutively. From 2 to 5 grammes produce sleep, but not smaller doses; if 5 grammes be given as a first dose and fail, it should not be continued. Its action is generally quick; sometimes two or three hours elapse before sleep results. The action is not lasting. After two, three, six, or seven days, according to the patient, it fails to produce sleep; its use must then be discontinued for some days. The quicker and the sounder the sleep resulting from its influence, the sooner is that influence exhausted.' MM. Mairet and Combemale's physiological researches on the action of urethan, published in the *Comptes Rendus de la Société de Biologie*, March 20, 1886, indicate that this substance acts directly on the nervous system.

W. Vignal.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

5566. Jbankoff.—Foreign Bodies in the Vagina. (*Vratch*, No. 41, 1885.)

5567. Volkova, Maria M.—Multilocular Colloid Cyst of the Ovary, Associated with Extreme Prostration; Ovariotomy; Recovery. (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 15, 1885, p. 252.)

5568. Masalitinoff, A. G.—On Coitus as a Cause of Rupture of the Perinæum, and of Vesico-vaginal Fistula. (*Vratch*, No. 13, 1885, p. 198.)

5569. Esipoff, N. A.—Rupture of the Female Urethra during the First Coitus: Atresia Vaginæ. (*Meditz. Obozr.*, Fasc. i., 1886.)

5570. Ispolatovskaia, Maria Vl.—Perimetritis Dissecans post Partum: Necrosis Uteri. (*Vratch*, No. 6, 1884, pp. 85-87.)

5571. GRAMMATIKATI, J. N.—On Partial Gangrene of the Womb in the Puerperal Period, in connection with Growth of Bacteria (Gangræna Uteri Partialis Post Partum). (*Russkaia Meditzina*, 1885, No. 13, pp. 256-58; No. 14, pp. 273-74; and No. 15, pp. 291-92.)

5572. PRUJANSKAIA, MARIA O.—Uterus Duplex Bicornis cum Vaginâ Duplici. (*Meditz. Obozr.*, No. 24, 1885, pp. 1068-69.)

5573. SÜSLIN, N. N.—Ovariotomy in the Seventh Month of Pregnancy: Recovery. (*Dnevnik Kazanskaho Obshtch. Vratchei*, Nos. 23 and 24, 1885, pp. 357-62.)

5574. SÁMSON.—Death from Sudden Bursting of the Sac in Ovarian Pregnancy. (*Allgem. Wien. Med. Zeitung*, Dec. 22, 1885.)

5575. RUNGE AND THOMA.—A Case of Tubo-ovarian Cyst. (*Archiv fur Gynäkologie*, Band xxvi., Heft 1.)

5576. LOMER.—The Significance and Diagnosis of Gonorrhœa in the Female. (*Deutsche Med. Wochensch.*, No. 43, 1885.)

5577. VON PREUSCHEN.—On Inflammation of the Parotid Gland after Ovariotomy. (*Deutsche Med. Wochensch.*, No. 51, 1885.)

5578. MARTIN, DR. A.—Case of Lithopædion. (Obstetrical Society of Berlin, November 1885.)

5579. COHN, DR. E.—On the Advisability of Operative Interference in Cases of Malignant Disease of the Ovary. (Obstetrical Society of Berlin, November 1885.)

5580. ERÖSS, DR. J.—Observations on the Temperature and Indications for Artificial Heat in Children Born before Term. (*Arch. für Gynäkologie.*)

5581. MÉNIÈRE, DR. P.—Extraction of Hair-pins from Female Bladders. (*Gazette de Gynécologie*, March 6, 1886).

5582. SEGOND.—On Retention of the Menstrual Flow by an Imperforate Hymen. (*Nouvelles Archives d'Obstet. et de Gynécol.*, Feb. 27, 1886.)

5583. TERRIER, F.—On the Influence of Ovariotomy on Menstruation. (*Revue de Chirurgie*, December 1885.)

5584. DOLÉRIS.—Congenital Atresia of Vagina with Unruptured Hymen; Pregnancy; Delivery. (*Société de Gynécologie et d'Obstétrique*, February 1886.)

5585. DOLÉRIS.—On a Case of Rupture of Uterus and Laparotomy. (*Société de Gynécologie et d'Obstétrique.*)

5586. BLANC, DR. EMILE.—On a Case of Acute Hydramnios. (*Nouvelles Archives d'Obstétrique et de Gynécologie*, March 25, 1886.)

5587. EDIS.—On Cancer of the Uterus. (*Brit. Med. Jour.*, March 1886.)

5588. LANDIS.—Electricity in Extra-uterine Fœtation. (*Amer. Jour. of Med. Sciences*, October 1885.)

5589. ARBUCKLE.—A Case of Complete Cure of Inversion of the Uterus. (*Lancet*, December 1885, p. 1183.)

5590. WASSILIEFF.—A Case of Extra-uterine Pregnancy. (*Centralbl. für Gynäkologie*, Dec. 26, 1885.)

5591. ROEMER.—Forcible Separation of an Inverted Uterus after Delivery. (*Archiv für Gynäkol.*, and *Centralbl. für Gynäkol.*, Jan. 16, 1886.)

ART. 5566. *Jbankoff on Foreign Bodies in the Vagina.*—In the *Vratch*, No. 41, 1885, p. 683, Dr. D. Jbankoff, of Soligalitch, Kostroma Government, records two interesting cases. One was that of a peasant woman, aged 75, who applied to the author on account of profuse offensive blood-stained discharge, and itching of the genital and femoral regions. On examination, a large, moderately hard, movable ring-shaped body was found in the vagina; it could be removed only after being divided by scissors. There were present an enlarged cervix with extensive ulceration of the os, retroflexed atrophic womb, erosions, and a fungous ulcer at the upper part of the posterior vaginal wall. The ring was about 27 centimètres in circumference, and about 5 centimètres in thickness, and was made of a thick wire, firmly wrapped in many rounds of a rag, the latter being rotten and encrusted with a thick layer of lime salts. According to the patient's statements, the ring was prepared for her and introduced by a village *znakharka* ('wise woman,' a self-made rustic female practitioner, usually illiterate) about twenty-five years ago, shortly! after her last (sixteenth) delivery, when her womb had prolapsed. When seen three weeks after extraction of the 'home-made' pessary, the patient was almost free from all local symptoms.—A month later, another peasant woman, aged 60, came to Dr. Jbankoff for a truss for inguinal hernia. The author's attention being drawn to a profuse fœtid vaginal discharge, an examination was made, and a soft ring was found and pretty easily extracted. Inspection through a speculum showed complete absence of the vaginal roof, in consequence of the cervix being throughout adherent to the vaginal walls. The former site of the foreign body was marked with a whitish firmish stripe of a finger's breadth. The ring, of twisted rags alone, was covered with a thick layer of lime-salts, and was about 24 centimètres in circumference and 8 in thickness. As in the former case, it had been made and introduced by a *znakharka* twenty-one years ago, to remedy prolapse of the womb after the patient's fourth delivery; a year afterwards the patient was delivered a fifth and last time, and since then wore the ring for twenty successive years. Except offensive leucorrhœal discharge of relatively short standing, it did not cause any discomfort, coitus being painless, micturition and defæcation free and easy. The leucorrhœal discharge disappeared about three weeks after the removal of the ring. The relatively small amount of local irritation in both of the cases may be explained by the fact of the foreign bodies being fairly soft. In a similar case, related by Professor M. J. Horwitz in his *Handbook of Pathology and Therapeutics of the Female Sexual Sphere*, vol. i., p. 314, where the patient had been carrying a long silk stocking in her vagina for four years, the usual symptoms manifested themselves only for a few months before she sought medical advice.

5567. *Volkova on a Case of Ovariotomy.*—Dr. Maria M. Volkova, house-physician to Professor A. I. Lebedeff's clinic, in St. Petersburg, details at considerable length (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 15, 1885) the case of a sterile woman, aged 30, who five years previously began to suffer from right-sided hypogastric pain and sickness. Two years later, a movable tumour on the right side was first noted, which grew, at first slowly, but during the last year very rapidly. On admission, the patient was extremely emaciated ('skin and bones') and weak (could not even sit); the pulse being very feeble and frequent, respiration shallow and laboured, and the abdomen enormously distended. A multilocular colloid cyst was diagnosed. Tapping gave vent to 2,400 cubic centimètres of very viscid brownish fluid. Ten days later, ovariotomy was performed, the abdominal incision running from the pubes up to two fingers' breadth from the ensiform cartilage, and measuring 24 centimètres. The cyst was found to be extensively and firmly adherent to the abdominal wall, diaphragm, liver, and omentum. Parenchymatous bleeding was considerable. The wound was closed by twelve deep and sixteen superficial sutures. The operation lasted one hour and fifty minutes. The tumour weighed 7,000 grammes. The wound healed by the first intention. From the ninth to the fourteenth day, the temperature oscillated about 39° C. During three weeks, the patient was 'bathed in her perspiration;' then an interrupted improvement in the general state followed.

5568. *Masalitinoff on Coitus as a Cause of Rupture of the Perinæum and Vesico-vaginal Fistula.*—In the *Vratch*, No. 13, 1885, p. 198, Dr. A. G. Masalitinoff, of Kharkov, describes two cases of serious injuries in women caused by the first coitus. The first case was that of a newly married chlorotic, weakly, but normally developed middle-sized woman, aged 24, to whom the author was hurriedly called a few hours after her first intercourse with the husband; the latter, a tall, powerfully built man, having been drunk at the time, and performed the coitus with the prepuce retracted. The patient was found in an utterly anæmic state, in consequence of her having lost much blood. On examination there was found a rupture of the perinæum, about three centimètres long and one and a half centimètre deep, beginning in the vagina from a point about one and a half centimètre above the posterior commissure, passing through a broad zone-like, smooth-edged hymen, and ending within half a centimètre of the anus. The lacerated wound was covered by a black blood-clot. No other injury in the genital organs was detected. The patient having refused any suturing, the treatment was of necessity limited to the use of ice, &c.; the results, however, were satisfactory. The author draws attention to three interesting features of the case: first, there was quite an unusually profuse loss of blood from a lacerated wound of the perinæum; this circumstance he is inclined to explain by the supposition that the patient suffered from Immermann's 'rudimentary hæmophilia.' Secondly, he refers to the extreme rarity of perineal rupture from coitus, himself being able to find only two similar cases in the literature (Toulmouche's and Liman's cases, quoted by Hoffmann is his *Handbook of Forensic Medicine*). In his case the injury seems to have resulted from a simultaneous action of several conditions, to wit—*a*. disproportion between the genital apparatus of the parties; *b*, violence of impetus by a drunken athlete; *c*, violence, which always accompanies coitus with the prepuce retracted; and ultimately and especially, *d*, a peculiar anatomical configuration of the vulva and perinæum in the patient. The latter presented but a weak development of the posterior part of the large labia, a similar condition of the posterior commissure, a smooth-edged (void of any wrinkles and indentations) hymen, and a smooth, tensely skinned perinæum; in short, the peculiarities which, according to the author's experience, exceedingly favour the occurrence of perineal rupture. Thirdly, the case has a considerable forensic interest, as far as the presence of a perineal scar is concerned. The latter, as is well known, is regarded as a reliable sign of past parturition. Meanwhile, Dr. Masalitinoff's case shows that it may result, also, from coitus. Another, probably unique, case which came under the author's observation in Professor J. P. Lazarevitch's clinic, was that of a normally developed Georgian woman, aged 19, in whom the first coitus was accompanied by agonising pain and profuse hæmorrhage, the blood oozing for a week afterwards. From the third day after the coitus almost the whole urine began, also, to flow from the vagina. On the examination, there was found an irregular opening, about a shilling-piece in size, situated on the anterior vaginal wall at the level of the uterine os, and leading into the bladder. The edge of the fistula was swollen, very tender, and infiltrated with urates. There was present, also, anteflexion of the womb, as well as lateral deviation to the right. The vagina was short, but otherwise healthy. The husband being absent, no details concerning the coitus could be obtained. It is probable that the injury occurred under the simultaneous influence of an overdistended bladder, shortness of the vagina, and violence of coitus. A severe bruise, with intervisceral effusion of blood and with subsequent gangrene of the tissues, might result. The supposition seems to find some support in the fact that urine began to flow from the vagina only as late as the third day (and not immediately after the coitus, as it ought to be in the case of instantaneous rupture).

5569. *Esipoff on Rupture of the Female Urethra during the First Coitus: Imperforate Hymen.*—At a recent meeting of the Cronstadt Marine Medical Society, Dr. N. A. Esipoff communicated (*Meditz. Obozr.*, Fasc. i., 1886, p. 47) a case of the following nature. A newly married female, aged 19, who had never menstruated, but every three weeks suffered from menstrual molimina, during the first coitus suddenly felt acute burning pain in the vulva, which was followed by very profuse hæmorrhage, both of the parties being in an inebriated state at the time. When first seen, five hours later, the patient was found to be anæmic, the source of the still continuing hæmorrhage being a laceration of the urethra about two centimètres long, running from the edge upwards to the bladder. A fluctuating tumour, of the size of a hen's egg, was bulging from the vaginal orifice. It was covered by the normal skin, with distinct veins. A finger introduced into the rectum revealed a fluctuating cyst occupying the whole lesser pelvis. The womb was greatly distended, its fundus being felt a finger's breadth above the navel. After arresting the bleeding by cold water douche, the author closed the wound with five sutures of reindeer tendon [a material originally recommended by Dr. Putiloff, as may be seen from the LONDON MEDICAL RECORD, May 1884, p. 197, and frequently used by the author], and introduced Nélaton's catheter *à demeure*. Three days later, the wound was found healed by the first intention, no trace of sutures being left. On the fourth day (after the accident) a large-sized trocar was thrust into the distended hymen to remove about 2,000 cubic centimètres of inspissated, tar-like, inoffensive menstrual blood. Then, having washed out the cavity with a sublimate solution, the author enlarged the puncture with a bistoury. On examination, neither vaginal roof nor vaginal portion of the womb were found, the uterus and vagina representing one cavity, with a slightly prominent ring at the level corresponding to the internal uterine os. A week later, the womb assumed its normal size; the cervix was formed already, but was still somewhat short and flabby, the external os being patent, its edges star-like and knotty. Dr. Esipoff mentions, also, a case of hæmatometra in consequence of congenital atresia of the hymen, in a strong, well-nourished hotel servant, aged 17, with menstrual molimina of a year's standing, and with the fundus uteri felt three fingers' breadth above the pubes. No discomfort whatever was ever felt by the patient. The author performed the same operation as in the former case. As in the first case, the womb and vagina was found to be transformed into a single cavity, the cervix being almost tracelessly levelled in consequence of prolonged and considerable distension. Dr. Esipoff lays stress on that point, for Professor Schroeder, in his handbook, states that in cases of hymeneal atresia only hæmatocolpos is present, while true hæmatometra occurs only in cases of atresia of the external os uteri.

5570. *Ispolatovskaia on a Case of Partial Gangrene of the Womb after Labour.*—In the *Vratch*, No. 6, 1884, p. 85, Dr. Maria Vl. Ispolatovskaia details at considerable length an interesting and rare case which came under her observation in Professor K. F. Slaviansky's clinic in St. Petersburg. An anæmic, exhausted, undersized kitchen-gardener, aged 26, primipara, was brought in with ruptured membranes, on the fifth day of labour-pains, which had set in soon after her stumbling and falling when at work. On examination there were found a flat non-rachitic pelvis, with a true conjugate diameter of 8 centimètres, a high and oblique position of the fœtal head, firm contraction of the uterus, with dangerous distension of its lower segment, and with the os admitting only two fingers, fever, tenderness of the womb, and offensive uterine discharge; the latter three symptoms undoubtedly pointing to incipient *endometritis sub partu.* These symptoms, as well as apprehensions in regard to a possible rupture of the wound, led to the performance, without delay, of perforation of the fœtal head, and cranioclasm. After labour, the endometritic phenomena grew worse, the uterine discharge soon assumed an intense gangrenous odour, and became mixed with shreds of dead tissue. By the end of two weeks, pelvic peritonitis was added. On the twenty-ninth day a quadrangular dirty-grey piece of dead tissue, measuring about 26 × 12 × 1·8 centimètres, came away; it was a portion of the uterine wall, including the serous coat. For the next six days, the vaginal discharge was purulent; but on the thirty-sixth day it began to contain a large admixture of fæcal matter and undigested food. No excrements passed through the rectum for the next eighteen days, when a small motion appeared. From that day a gradual but steady improvement in all regards ensued. By the seventy-eighth day (after labour) the patient got up, the utero-intestinal fistula having healed shortly before. On the ninety-ninth day, she left the hospital well and sound. On examination, the vagina in its upper half was found narrowed by cicatricial tissue; still it was possible to feel the external os above the stricture, but no uterine fundus could be detected. According to the author, the course of events in the case above was as follows. Under the influence of prolonged pressure by the fœtal head, gangrene of the lower segment of the uterus ensued; the presence of a sequestrum caused reactionary pelvic peritonitis with suppuration; the suppurative process around the womb spread to a loop of intestine, and gave rise to the formation of an utero-intestinal fistula.

5571. *Grammatikati on Partial Gangrene of the Womb after Labour.*—Dr. J. N. Grammatikati, house-physician in Professor K. F. Slavïansky's clinic, contributes (*Russkaia Meditzina*, Nos. 13, 14, and 15, 1885) another case of partial necrosis of the puerperal uterus. A normally developed, healthy, single lady, aged 24, primipara, was delivered by forceps about thirty hours after the appearance of the first labour-pains, the perinæum being considerably injured. On the third day after labour, the perineal laceration assumed a gangrenous character; the lochia became offensive, and the uterine fundus tender. On the sixth day, peritonitis set in. On the twelfth, the patient died from septic infection. At the *post mortem* examination, a turbid, purulent, greyish fluid was found in the peritoneal cavity; the uterus measured 15 × 9 × 6½ centimètres; a portion of the anterior uterine wall, corresponding to the site of the placenta and measuring 8 × 8 centimètres was thinned, very flabby, and had a pale grey colour, the portion being surrounded by a yellowish inflammatory zone of demarcation, involving the whole thickness of the wall. Under the microscope, the whole sequestrum proved to be infiltrated with microbes, great numbers of which permeated thrombi on the internal uterine surface within the placentar region; the microphytes, also, filled the uterine blood-vessels and lymphatics, and were scattered amongst the muscular and fibrous elements of the womb. The micro-organisms were extremely minute spheric bacteria, in the shape of diplococcus, or chains of four, six, and more individuals. No microbes were detected beyond the line of demarcation. Reviewing the literature of the subject, Dr. Grammatikati mentions nine similar cases; two of Dr. Syromïatnikoff, who in 1880 first described partial gangrene of the puerperal womb as a result of 'dissecting metritis' (*Vratch*, 1880, Nos. 29 and 30); five of Dr. Garrigues (*Archives of Medicine*, April 1883, p. 115), who accepted the existence of Syromïatnikoff's disease as a special clinical form; one of Prof. Slavïansky (described by Prof. Sutugin in the *Reports of the St. Petersburg Lying-in Hospital* for 1840-71, p. 359); and one of Dr. Maria Ispolatovskaia (*see* preceding case). From a consideration of all ten cases, Dr. Grammatikati draws the following conclusions. 1. Etiologically, anatomically, and clinically, metritis dissecans 'is identical with puerperal septicæmia.' 2. The latter may run its course under most varying localisations in the region of the pelvic organs. 3. Partial gangrene of the womb in such cases must be attributed to growth of, and infiltration with, certain spheric bacteria, the characteristics of which are yet to be elucidated by culture and inoculation experiments. 4. Growth of the bacteria begins at the placentar site, and spreads up along the blood-vessels and lymphatics. 5. The term 'metritis dissecans' cannot be retained in morbid anatomy, and must be substituted by 'gangræna uteri partialis.' [In the LONDON MEDICAL RECORD, July 1885, p. 288, an eleventh case of the kind, communicated by Dr. Faina Troïanova, may be found. In her subsequent detailed paper on the case in the *Russkaia Meditzina*, No. 23, 1885, pp. 339-41, she states that the micro-organisms detected by her in the sequestrum were shaped like 'short rods with rounded ends,' and seen always in pairs grouped mainly in the circumvascular and intermuscular lymphatic slits, and also on the internal surface of thrombosed blood-vessels as well as within the thrombi.—*Rep.*]

5572. *Prujanskaia on Two-Horned Womb with Double Vagina.*—In the *Meditz. Obozrenie*, No. 24, 1885, p. 1068, Dr. Maria O. Prujanskaia, of Moscow, records the case of a strong and healthy married lady, aged 24, who began to menstruate at 13; the catamenia coming every three weeks, lasting each time seven days, and being always profuse and painful. She had four pregnancies, the first of which ended at full term, but the labour was difficult and tedious, and the child weak and short-lived; a second labour came prematurely; the last two pregnancies were interrupted by abortion in the fourth and second months. No catamenia appeared during the first two pregnancies, while the last two were complicated by an almost incessant, though slight, hæmorrhage. On examination, the author found a double two-horned uterus with two fully developed cervices, the right being virginal, and smaller than the left one, which presented all the usual signs of past labours. The vagina was also divided into two parts by a septum which was thrown off from the anterior vaginal wall in its two lower thirds, and could be felt and seen through the vulva, in the shape of a high fleshy crest attached to the posterior wall of the vagina.

5573. *Süslin on a Case of Ovariotomy during Pregnancy.*—Dr. N. N. Süslin records (*Dnevnik Kazanskaho Obshtch. Vratchei*, Nos. 23 and 24, 1885, p. 357) a case of ovariotomy, performed by Professor L. L. Levshin, of Kazan, in a peasant woman, aged 19, in the seventh month of her first pregnancy. The first symptoms of ovarian disease dated back about three years. On admission, the circumference of the abdomen at the level of the umbilicus measured 139 centimètres, the distance from the ensiform cartilage to the pubes 59 centimètres. The belly was extremely and evenly tense. For the two last months, the patient had not been able to assume the horizontal position, and generally greatly suffered from embarrassment of breathing. The woman was operated upon in a half-sitting posture, and under only a very slight narcosis; the operation lasted about half an hour, and was altogether uneventful. The abdominal incision was 20 centimètres long; adhesions between the surface of the cyst and the parietal peritoneum were easily broken down. The pedicle, which could be traced to the right ovary, was ligatured, cut, freely powdered with iodoform, and returned into the abdomen. The subsequent course was 'extremely favourable'—no fever, no acceleration of the pulse, no sickness or pain. The wound healed by the first intention. The superficial sutures were removed on the tenth, the deeper on the seventeenth, day. Labour came at full term, and was quite normal, the infant being healthy. There occurred slight fever during the puerperium, but it soon disappeared under sublimate irrigations. This is the first operation in a pregnant woman by Professor Levshin, who has performed forty ovariotomies up to this date. According to Dr. Süslin, Russian literature contains few cases of ovariotomy during pregnancy. He mentions only one case of Professor Sklifosovsky, of Moscow; two cases of Professor Slavïansky, of St. Petersburg; and one of Dr. Kuznetzky, of Nijni-Tahil. Of foreign cases, he quotes twelve of Professor Schroeder, six of Mr. Lawson Tait, two of Galenrhaux, twenty-nine of Wilson, ten of Spencer Wells, one of Pollock, one of Hillas, and one of Atlee. Olshausen's work on *Diseases of Ovaries* contains eighty-two cases of ovariotomy during pregnancy. [Professor Sklifosovsky's and other Russian surgeons' cases may be found in the LONDON MEDICAL RECORD, April 1885, p. 157.—*Rep.*]

V. IDELSON, M.D.

5574. *Sámson on Death from Bursting of the Sac in Ovarian Pregnancy.*—The *Allgem. Wien. Med. Zeitung* for December 22 contains an account of a case of sudden death from the bursting of a sac in ovarian pregnancy, communicated by Dr. Sámson, of Elésd, in Hungary. The patient was a servant, aged 25, who was taken suddenly ill at midday with violent pain in the left side of the abdomen, having formerly been in blooming health. Dr. Sámson was unable to attend until after death had occurred, and can therefore only report what he heard from intelligent witnesses. The severe pain soon gave place to pain of less severity over the entire abdomen, with a feeling of rippling inside. In about an hour she vomited fluid several times, and complained of oppression in the region of the heart, for which she was given wine, rum, tea, and warm compresses. About 2 P.M. she had some soup, with a little meat and vegetables, which she took with apparent relish, but vomited in half an hour. Difficulty of breathing now came on, and the patient became paler and weaker, until she died at 5 P.M., five hours after the first attack of pain. Dr. Sámson saw the body four hours afterwards, and was struck by the extreme pallor of the skin and mucous membranes, and by the barrel-like distension of the abdomen. His first thought was of some clumsy attempt at abortion, but that was contra-indicated by the fact that the os uteri was closed, and the vagina free from any trace of blood, and by the information given him that the deceased had menstruated two days before. The next thought was poison, but no suspicious appearances were found in the carefully preserved vomited matters, or in the room, and the necropsy was the first thing which threw light on the matter. No abnormality, except extreme anæmia, was found in any of the organs, with the exception of some fatty degeneration of the heart. On opening the abdomen a quantity of fluid blood escaped, amounting, with what remained in the abdomen and pelvis, to several litres, along with cakes of clotted blood. The uterus was somewhat enlarged and softened, but presented no other peculiarities. The right ovary was normal; the left was about the size of a hen's egg, with a rent half a centimètre long on its under side, next the Fallopian tube. The ovary contained an embryo one inch long, with the buccal and nasal cavities distinctly separated, the extremities developed, although with no sign of fingers or toes, the abdominal cavity closed, and the umbilical cord present. There was an effusion of blood between the layers of the perimetrium; no wound on the external genital organs or in the vagina. The pregnancy must have been about the beginning of the third month; the rupture must have taken place at midday on the day of death; and the small calibre of the anastomoses of the spermatic artery caused the long delay before the occurrence of death from hæmorrhage. The deceased had had a normal delivery three years before, when her neighbours declared that menstruation had gone on during pregnancy, the last menstruation being certainly vouched for. Dr. Sámson thinks the rarity of the case justifies its being reported.

ALICE KER, M.D.

5575. *Runge and Thoma on a Case of Tubo-ovarian Cyst.*—The patient was a married woman, aged 37. For nine years the catamenia, which had previously been normal, became painful and irregular, and accompanied with headache and vomiting. The pain was chiefly localised on the right of the hypogastrium, and ultimately became constant, as severe between as during the periods, and aggravated by bending or lifting weights. On digital examination, a resisting body was felt in the right side of the pelvis, above the level of the horizontal ramus of the pubis. By means of bimanual palpation a tense, elastic, movable, and very tender growth was detected on the right side of the uterus. It was distinctly divided into two portions by a groove. The segment nearest to the uterus was continued internally as a tortuous cord, as thick as a man's finger, and joining the uterus. The outer part was hard and irregular, and another cord ran from it to the uterus. The left ovary was normal; the right could not be distinguished from the tumour. An operation was performed, and a tubo-ovarian cyst was removed. The authors are of opinion that this case was acquired, and not congenital. It was caused by the formation of a communication between a dilated tube and a small cyst on the surface of the ovary. It could not be ascertained whether the cyst was originally a normal Graafian follicle, a dropsical follicle, or a cystic corpus luteum. The tube probably opened into the cyst at a point where they were closely adherent, and not at its normal ostium, nor at any accessory ostium. [This explanation of the manner in which the communication occurs appears perfectly sound. It must be added that in cases of tubo-ovarian cyst there is generally a history of pelvic peritonitis, and always, we believe, evidence of that disease after death. It causes the adhesion of the Fallopian tube to the ovary, and also obstructs the tube by closing its fimbriæ, or by the development of fibrous bands, which press on its uterine half. Should there happen to be a cyst on the ovary under the site of adhesion of the tube, the communication may readily be established. Communication between a large cystic ovarian tumour and the Fallopian tube is very rare, and even in such a case the tube must be diseased. In fact, tubo-ovarian cyst is usually a result of pelvic peritonitis.—*Rep.*]

5576. *Lomer on Gonorrhœa in Women.*—Dr. Lomer has published the results of a systematic examination of the vaginal secretion in several hundred women in Professor Schröder's wards. Bumm has recently insisted upon regarding the cervix uteri as the true seat of gonorrhœa, the vaginitis being a secondary result due to irritation from the cervical discharge. Neisser's diplococci are not easy to find in vaginal discharges, and are sometimes found in pus-cells in non-specific vaginitis. Dr. Lomer confirms the opinion that the vaginal discharge is unfavourable for the detection of diplococci, which should be sought in mucus taken direct from the cervix. Still, the same germs may be found in vaginitis in children and in women in childbed. Clinical appearances aid in the diagnosis of gonorrhœa, especially signs of inflammation of the vulva, urethra, and vagina. A greenish coloration of the pus in purulent catarrh of the cervix, Dr. Lomer, like other observers, considers to be suspicious. Sterility was very frequent in his cases of chronic gonorrhœa, and scanty menstruation was a very common complication. The existence of hydrosalpinx or pyosalpinx is of great diagnostic importance. A very considerable proportion of women in gynæcological departments of hospitals are subject to chronic gonorrhœa, without being aware of the fact. After the puerperium, gonorrhœa is the most frequent cause of uterine disease. Sanger traced gonorrhœa as the origin of disease in one-ninth of all his gynæcological cases. [It is highly probable that the ducts of Cowper's glands may harbour gonorrhœal virus, even after it has disappeared from the cervix.—*Rep.*]

5577. *Von Preuschen on Inflammation of the Parotid Gland after Ovariotomy.*—Dr. von Preuschen, of Greifswald, observes that there is the same relation between the ovary and the parotid as between the testicle and the same salivary gland. He describes the case of a woman attacked by gangrene of an ovarian tumour during the fifth month of pregnancy. Ovariotomy was performed, and on the third day parotitis set in. An abscess formed, was punctured, and recovery rapidly followed. Dr. von Preuschen did not discover any symptoms which, in his opinion, could by any possibility be considered to indicate sepsis. He attributed the parotitis to the entrance of micro-organisms into the parotid duct with simultaneous suppression of the secretion of saliva, after ovariotomy. Pauloff has found that opening the abdominal cavity and drawing out a coil of intestine generally causes diminution or suppression of salivary secretion. There is also complete abolition of the influence of the gustatory nerve on the saliva. This was ascertained by experiments on animals; possibly something analogous occurs in ovariotomy. [In British surgical experience, parotitis after ovariotomy is very rare. *See* 'Case of Ovariotomy; Recovery from the Operation; Otitis; Death.'—*Medical Times and Gazette*, vol. ii., 1879, p. 607.]

ALBAN DORAN.

5578. *Martin on a Case of Lithopædion.*—A woman, 52 years of age, multipara, noticed signs of pregnancy in August 1872. In 1873 she applied as an out-patient, and a diagnosis was made of extra-uterine pregnancy with a living child. The patient declined to submit to an operation of any kind, and the child ultimately succumbed. In November 1885 she returned, and was now willing to be operated on in order to put an end to very distressing abdominal symptoms, which were rapidly becoming worse. The extraction of the lithopædion, which was lying on the right kidney, was easy enough; but great difficulty was experienced in extirpating a tumour which was adherent on every side, and filled the right half of the pelvis. The Fallopian tube was found distended with pus, and situated in a funnel-shaped cavity, which probably corresponded with the original site of the placenta and ovum. No trace of placenta could be discovered. Recovery took place without a bad symptom.

5479. *Cohn on the Advisability of Operative Interference in Cases of Malignant Disease of the Ovary.*—Cohn disapproves of puncture as a means of diagnosis, and advises an exploratory incision, to be followed by removal of the organ if found to be diseased. On one hundred cases so operated, seventeen succumbed as a result of the operation, three of these being after an exploratory incision alone. Of the remainder (eighty-six), 19·5 per cent. were cured, (that is to say, the disease has not reappeared), and in 17·3 per cent. it recurred. In the seventeen fatal cases, death resulted in seven of them from septicæmia, in two from secondary hæmorrhage and intestinal obstruction, in five from shock, and in the five others from collapse. The period of recurrence varied from a few weeks to fourteen months. In one case recurrence took place only after seven years, and another operation prolonged life for eighteen months longer. His conclusion was that, as concerned ovarian tumours, the moment a solid or rapidly growing tumour was diagnosed, an operation should be performed with the least possible delay.

5580. *Eröss on the Temperature and Indications for Artificial Heat in Children Born before Term.*—In a paper on this subject the author has endeavoured, by a series of carefully conducted observations, to show what are the actual heat-producing powers of children born before term, and from the results so obtained to lay down the indications for the employment of artificial heat. His observations comprise the temperatures, taken three times daily, of fifty infants which he has subdivided into three categories; *a.* infants born before term, but in good health, or, at any rate, not presenting signs of any affection which would influence the temperature; *b.* infants born before term with febrile temperatures, the result of one or other affection; *c.* infants born before term whose temperature was constantly subnormal. Nineteen infants were classed in group *a.* The observations as to temperature and weight showed that they produced by themselves a considerable amount of heat, quite sufficient, with suitable care as to packing in cotton-wool, &c., to maintain a suitable temperature. Although nutrition may not take place with the same vigour as in children born at full time, it is, nevertheless, active enough to render the use of artificial heat by means of *chauffeuses*, &c., unnecessary. These infants showed a mean loss of weight by the eighth day of 60 grammes. *b.* This group numbered eighteen infants, and their average weight was 2,410 grammes. As the result of attacks of diarrhœa, dyspepsia, &c., febrile temperatures of greater or less duration were observed, but in no instance during the periods of apyrexia did it fall to an extent rendering the use of artificial heat advisable. *c.* The thirteen children comprised in this group had an average weight of 2,158 grammes, which was less by 100 grammes on the eighth day. Their temperature was almost always subnormal, rising to the standard only now and again. Two died on the third day, another on the fifth day. In this class of cases the author considers artificial calorification to be clearly indicated. Out of the fifty cases on whom the preceding observations were made, only a quarter of the number required the employment of artificial heat. As to the indications for its use, special attention should be paid to the period of pregnancy, body-weight, nutritive activity, condition of health or disease, and finally to the thermometric chart. The thermometer particularly enables the medical attendant to distinguish the cases where artificial heat is required, and to avoid its routine use in children not in need of it, and to whom its use may be positively injurious. The author particularly insists that the mere fact of birth before term is not *per se* an indication for artificial heat.

5581. *Ménière on Cases of Extraction of Hair-pins from Female Bladders.*—The first patient, an intelligent, respectable girl, aged 17, was brought to Dr. Ménière by her mother. The foreign body had been introduced more than a week before the fact was ascertained, but micturition had been normal and painless, except that now and then the patient experienced a sensation of acute discomfort at the termination of the act. The object was extracted, not without a great deal of difficulty, by means of Courty's *extracteur*; but Dr. Ménière expresses himself dissatisfied with this instrument, on account of the risk to the patient which is involved by its employment. In the course of the operation, the partitions between the bladder and the vagina, and between the vagina and rectum were perforated; and it was only by means of the finger in the vagina, and long and tedious manipulation, that the hair-pin could be turned so as to allow of its being withdrawn. The patient, however, ultimately did well, and no inconvenience resulted. The second case was that of a single woman, aged 30, who, after having gone to bed in a semi-intoxicated condition, remembered the next morning that she had 'dropped' a hair-pin into her bladder. She awoke in the morning with an urgent desire to micturate, accompanied with severe pain, and, as the symptoms rapidly became worse, she went to see her medical attendant, who took her to Dr. Ménière. On vaginal examination, the object could be felt lying transversely to the axis of the urethra, with the bend of the pin to the right. He dilated the urethra to about half an inch, and endeavoured to pass a finger into the bladder, but the pain was so great that this plan had to be relinquished. Various sorts of forceps were tried, but without success; and ultimately it was determined to use a probe with the end curved so as to form a hook. With this instrument, and by the aid of a finger in the vagina, the pin was turned with the bend towards the meatus, and its extraction was then effected without difficulty. Several ounces of blood followed the operation, and the hæmorrhage recurred for a day or two afterwards. With proper precautions, however, the patient recovered without any bad symptoms.

5582. *Segond on Retention of Menstrual Flow from Imperforate Hymen.*—The following history of a case is given. A young girl complained of sharp pain in the lower part of the abdomen, with constantly increasing swelling, most marked at a given period every month. On her admission at the Hôpital Necker, a tumour was found extending to beyond the umbilicus. The vagina alone was ascertained to be dilated. A crucial incision was made in the hymen, followed by antiseptic irrigations, and a compress. Dr. Segond calls attention to the fact that the evacuation of the retained fluid never takes place with undue rapidity, owing to its consistence, and to the resilience of the hymeneal incision. In this case, it took over half an hour. Antiseptic injections are of capital importance, and are without danger if properly administered. M. Segond attaches much importance to the localisation of the dilatation, and this can sometimes be done by means of abdominal palpation. The distended vagina alone may extend above the umbilicus. The best moment for surgical intervention is between the menstrual epochs, shortly after the termination of the last period. It is well to begin by a simple puncture, to be followed by a crucial incision if necessary, and by antiseptic irrigation accompanied by gentle compression. It is desirable to anæsthetise the patient for the operation, simple as it is, and he advises the introduction of a glass tube into the hymeneal incision, to preserve it patent. The patient should remain in bed until the following period, and should be made to wear an abdominal belt on getting up again. When the uterus has been dilated, he advises the administration of ergot for twenty-four to forty-eight hours. If the Fallopian tubes and uterus be involved, great caution must be exercised, but he nevertheless prefers the crucial incision in these cases.

5583. *Terrier on the Influence of Ovariotomy on Menstruation.*—In a very interesting contribution on this subject, M. Terrier gives the results of a series of cases, in one category, of which ablation of both ovaries was performed simultaneously, and, in a second category, cases where the second ovary was removed some time after the first. In the former class, menstruation ceased altogether in thirteen cases out of twenty, all the patients having menstruated more or less regularly prior to the operation. In the second series, where the ablation was consecutive, the result was almost similar; in one case, menstruation had returned after the first operation, but disappeared after the second; in another, it returned two months after the second operation, but gave place to the menopause. In three other cases, menstruation recurred in one at intervals of six months; in a second, four times in three years; and, in a third, five times in eighteen months, when it again became monthly. From these observations, he draws the following conclusions. Removal of both ovaries leads to suppression of the menses; but this may not be immediate, in consequence of the persistence of the *habit* of periodical congestion of the uterus and its annexes. He entertains certain doubts as to whether the total ablation of the ovaries was really effected in those cases where the menses reappeared after operation.

5584. *Doléris on a Case of Congenital Atresia of the Vagina with Unruptured Hymen; Pregnancy; Delivery.*—The patient was a woman, aged 28. She first menstruated when 16, and suffered from dysmenorrhœa up to the age of 20. Sexual intercourse had never ceased to be extremely painful. On admission, she was recognised to be pregnant, but could afford no information as to the period. An examination under ether showed that a distinct rim of hymeneal membrane existed, behind which was a small funnel-shaped cavity, an inch or two in depth, terminating in a sort of diaphragm, concave towards the vulva, and showing a small perforation. The woman was evidently in labour. Dr. Doléris dilated the constriction, partly with his fingers, partly by means of incisions in the constricting band. Ultimately a child was born, weighing 930 grammes. Recovery took place without any untoward symptoms.

5585. *Doléris on a Case of Rupture of the Uterus followed by Laparotomy.*—At a meeting of the Gynæcological and Obstetrical Society of Paris, Dr. Doléris produced the uterus of a woman where rupture of the uterus had occurred during labour and the child had escaped into the peritoneal cavity. Delivery was, however, effected *per vias naturales*; but, two days later, the patient's condition having become very serious, he performed laparotomy under strict antiseptic precautions. The wound in the uterus, as well as the right broad ligament, which was torn, were sutured, and the peritoneal cavity carefully cleansed. The patient, however, did not rally from the shock of the operation, and died a few hours later. At the necropsy, the rent was found to extend from the right side of the cervix towards the right angle of the uterus, and thence inclined to the left. The right broad ligament was torn completely through, and the left was damaged to a less extent. Dr. Doléris expressed the opinion that immediate recourse to laparotomy would have been preferable.

5586. *Blanc on a Case of Acute Hydramnios.*—Cecile R——, aged 26, a domestic servant, was admitted in December 1885. She had always been healthy, and there was no history of rickets or of syphilis. The thyroid gland was, however, somewhat enlarged. Menstruation, commencing at the age of 13, had been regular ever since, except during two previous pregnancies, which resulted in her giving birth to a stillborn child and one which died when two months old. The present pregnancy began in May 1885, and until the month of November all went well. She then suffered from an attack of bronchitis, which tried her a good deal and caused her abdominal discomfort. On November 29, after passing the morning at laundry-work, she suddenly became the subject of violent pain in the back and abdomen, which persisted when she had gone to bed. The belly then rapidly increased in size, and there was some diarrhœa. Believing herself about to be confined, she came to the hospital on December 1, 1885. On admission she was very big, and appeared out of health. The most noticeable feature was the large size of the abdomen, which was hard, smooth, distended, covered with white lines, and as prominent on one side as on the other. Percussion gave a dull note all over. The circumference at the umbilicus was 110 centimètres, with 98 centimètres above and 104 centimètres below that point. Fluctuation was readily perceived, and was transmitted from side to side. Manipulation of the tumour was painful. Nothing could be ascertained by palpation, and no sounds of the fœtal heart could be detected. Uterine *souffle* was well marked. On examination *per vaginam*, the latter was relaxed, tender and hot. The os was high up and partly dilated, and felt quite firm. No presentation could be detected. The patient's face was flushed, the pulse was 100-110, regular. The urine was scanty, and loaded with albumen. The vaginal temperature was 38°·5 C. There was no vomiting nor œdema of the lower limbs. Two days later her condition became worse; the flushing of the face was more marked; she suffered from severe headache and thirst, and respiration was hurried. Temperature 40°·3 C. Pulse irregular, 132. The abdomen was more distended, and hot. She could not bear the slightest pressure upon it. The labia majora were distinctly œdematous. The os was more open, and had become softened. As surgical intervention was deemed advisable, Dr. Blanc passed Wenzel's trocar through the os uteri and ruptured the membranes, evacuating four litres of yellow liquid, with the odour of amniotic fluid, cloudy and rich in albumen. The patient's condition at once improved, but her temperature remained at 40° C., and the pain on the right side of the abdomen was still complained of. A few hours later uterine contraction was set up, and it was found to be a breech-presentation. Delivery was duly effected of a stillborn child which had undergone maceration *in utero*. The high temperature continued for some days afterwards, but in about three weeks the patient was discharged convalescent. ALFRED S. GUBB.

5587. *Edis on Cancer of the Uterus.*—In the *Brit. Med. Jour.*, March 1886, p. 437, Dr. Edis contributes an article on the clinical diagnosis of cancer of the uterus. Four cases are recorded of patients, who were told that they suffered from cancer of the uterus when no such condition was present. The author states that he has met with the most simple cases which have been diagnosed as cancer. Pregnancy with an intensely granular condition of the cervix and a copious vaginal discharge is often mistaken. Fibroids in various stages, during expulsion, and in process of sloughing, or when extruded from the vagina, frequently puzzle the practitioner; also retained products of conception, overlooked abortion, when there is laceration, or a granular condition of the cervix, simulate cancer in some instances. The peculiar hue in cases of pelvic hæmatocele is often mistaken for the cancerous cachexia. Cases of chronic hypertrophy with laceration of the cervix, and severe pain, at times deceive the unwary, as also do cases of pelvic cellulitis following parturition, and patients with a syphilitic history suffering from endometritis, with profuse discharge. In all doubtful cases, the fact of free hæmorrhage occurring on vaginal examination will enable one to determine approximatively the malignant nature of the disease. If the case be not malignant, there is seldom hæmorrhage on examination, even though the cervix be lacerated, with everted edges and an intensely granular degeneration of the mucous membrane. The age of the patient also assists in diagnosis, the disease being rare before 35. If, after the menopause, no blood pass *per vaginam* for a few years, and then suddenly there occur hæmorrhage, the disease is almost surely cancerous, provided alcoholism can be excluded. The nature of the discharge is characteristic in cases of epithelioma of the cervix, being of a serous or sero-sanguineous character, with a peculiar pungent odour, producing excoriation of the vulva and surrounding surfaces. In malignant disease, the pain is almost invariably worse at night when lying down; in chronic hypertrophy, or granular degeneration of the cervix, the pain is worse on standing, and is relieved by lying down.

5588. *Landis on Electricity in Extra-uterine Fœtation.*—In the *Amer. Jour. of Med. Sciences*, October 1885, the following conclusions are arrived at by Dr. Landis, who has conducted a series of experiments based upon the supposition that the fœtus can be killed, if subjected to a current strong enough. 1. In using the faradic current in extra-uterine pregnancy, the applications ought to last an hour, if the patient can bear it. 2. The current should be repeatedly applied, in order that the vitality of the fœtus may be completely exhausted. 3. For at least one sitting, the current should be used in great strength. 4. The current probably acts upon the placental circulation, as well as by destroying the fœtus.

5589. *Arbuckle on a Case of Complete Cure of Inversion of the Uterus.*—In the *Lancet*, December 1885, p. 1183, Dr. Arbuckle records the case of a lady, aged 24, who was suffering from an inverted uterus. When seen by the author, she was completely blanched, and in a very feeble condition. She stated that a year previously she had been confined of her second child, and that the after-birth was dragged away, causing great pain; and when she got up on the ninth day, she found that the womb was down. She continued in this state for several months until seen by the author, who decided to perform reduction by Dr. Barnes's method. The patient was placed under chloroform, and three long and deep incisions were made longitudinally in the constricting neck of the uterus. No hæmorrhage took place, and by gradually pressing upon the fundus the reduction was completely performed. The patient made a rapid recovery, and soon regained her previous robust health.

RICHARD NEALE, M.D.

5590. *Wassilieff on a Case of Extra-uterine Pregnancy.*—This case, interesting from the difficulty of the diagnosis, occurred in a woman, aged 30, married for sixteen years, healthy. She had her last period on Sept. 25. Two months later, she came to the hospital, complaining of great anæmia, salivation, and pain in the abdomen. The diagnosis was parametritis and toxic gastro-enteritis (because of the salivation). On Jan. 3 the patient died. The necropsy showed a peritonitis of the lower abdomen; in Douglas's pouch lay a fœtus of about four months' development. The umbilical cord was 20 centimètres long, the placenta developed. The cyst which enclosed the fœtus was situated in the left broad ligament, in the angle between the tube and the uterus. The uterus was not enlarged.

5591. *Roemer on Forcible Separation of an Inverted Uterus after Delivery.*—After a so-called normal labour in a primipara, aged 25, the midwife noticed a swelling between the thighs of the patient. The surgeon whom she called in took it for a fibroid, and with great force tore it away. He then, because of its rarity, sent the preparation to the Royal Midwifery School in Stuttgart. There it was discovered that the so-called tumour was nothing else than the inverted uterus. Almost all the uterine appendages were removed with it. A circle of about 18 centimètres, with long shreds of torn tissue, marked the site of the tear. Directly the uterus was torn away, coils of the small intestine prolapsed, which the surgeon then replaced. On the following day the intestine again prolapsed, and was replaced by the midwife. The patient survived the fearful injury twelve days. The necropsy showed that a long piece of the small intestine was separated from its mesentery; perhaps, too, even a piece of this was torn away. The surgeon was condemned to two years and six months' imprisonment.

G. D'ARCY ADAMS, M.D.

OTOLOGY.

RECENT PAPERS.

5592. ROBINSON, BEVERLEY.—Aural Complications of Inflammatory Conditions of the Nose and Throat. (*Transactions of the American Laryngological Association*, 1883.)

5593. FIELD.—Aural Exostoses. (*Lancet*, May, p. 980.)

5594. COUSINS.—A new Aural Inflator, Evacuator, and Injector. (*Brit. Med. Jour.*, October, p. 641.)

5595. DOWNIE.—Deafness in Bright's Disease. (*Glasgow Med. Jour.*, December 1885.)

5596. HUTCHINSON.—Removing Foreign Bodies from the Ears. (*Brit. Med. Jour.*, April 1886, p. 690.)

5597. BARTH.—Artificial Membrana Tympani.

5598. GORDON, L. A.—On Cases of Otitis and Aural Polypus. (*Proceedings of the Vilna Medical Society*, 1885, No. 5, pp. 10-11.)

5599. MOSZINSKI, S. J.—On Two Cases of Otitis from Sulphuric Acid. (*Proceedings of the Vilna Medical Society*, 1885, No. 5, p. 11.)

5600. MERMOD.—On the Treatment of Chronic Otorrhœa with Borax Dressing. (*Revue Méd. de la Suisse Romande*, April 15, 1885, p. 220.)

ART. 5592. *Robinson on Aural Complications of Inflammatory Conditions of the Nose and Throat.*—Dr. Beverley Robinson urges upon his fellow-laryngologists the importance of attention to the condition of the ears in these cases, and lays down some rules for their guidance. They are those with which otologists are well acquainted. The only points requiring notice are that he recommends salicylate of soda in a mixture for pain in the ears, and that he has found a sojourn at Aix-les-Bains of benefit in cases of chronic non-suppurative inflammation of the middle ear. E. CRESSWELL BABER, M.B.

5593. *Field on Aural Exostoses.*—In the *Lancet*, May 1885, p. 980, Mr. G. P. Field records four cases of ivory exostosis in the auditory canal, which prove that such a tumour can be successfully removed, with great benefit to the patient. The origin of these exostoses has been attributed to gout, rheumatism, or syphilis, but the author points out that they are more commonly produced by a chronic inflammation of the walls of the external meatus, such as might be produced by habitual sea-bathing. The four cases cited by Mr. Field were all in-patients fond of sea-bathing. The author draws up the following conclusions to his paper. 1. These exostoses are by no means necessarily associated with a rheumatic, gouty, or syphilitic diathesis. 2. Their causation can, with strong probability, be ascribed in many, if not in all, cases to some local irritation of the external auditory meatus, such as might be set up by habitual sea-bathing. 3. They can be most efficiently treated only by drilling, which, with proper precautions, is a perfectly safe operation. 4. Their prompt removal is indicated in all cases where (*a*) they hinder the elimination of secretions and discharges from the auditory canal; (*b*) where they occasion pain by pressure on neighbouring structures; (*c*) where they threaten completely to block the meatus, and so to deprive the patient partially or wholly of hearing.

5594. *Cousins on a New Aural Inflator, Evacuator, and Injector.*—In the *Brit. Med. Jour.*, October 1885, p. 641, Dr. Ward Cousins describes and depicts a new aural inflator designed to fulfil several important purposes in the practice of every-day aural surgery. It serves for inflating the middle ear as an ordinary Politzer's bag. It can be used as an evacuator for the withdrawal of fluid by the Eustachian tube, or as a pneumonic tractor applied to the external auditory canal. It can be employed also for the injection of medicated air charged with the vapour of deodorisers or other volatile fluids. The instrument is made by Messrs. Maw, Son, & Thompson.

5595. *Downie on Deafness in Bright's Disease.*—In the *Glasgow Med. Jour.*, December 1885, Mr. J. W. Downie contributes an article entitled 'Deafness in Bright's Disease.' The author records the following instance. A man, aged 27, who suffered from chronic nephritis, and had been confined to bed for two months on account of swelling of the legs, was suddenly seized with deafness in the right ear; it was almost complete, and a watch could not be heard even on firm contact. Two weeks later, the patient complained of a deep pain in both ears, and soon afterwards it was found that he was perfectly deaf with both ears. On examination with the ear-speculum, both ears looked perfectly healthy, and both Eustachian tubes were permeable. For a fortnight the patient remained in this condition, then hearing returned a little in the left ear. Two days later, he could hear a little with the right ear, and two days afterwards the power of hearing was completely restored. The author adds that he was unable to find any recorded cases, until he was directed by a reference in *Neale's Digest* to a paper by M. Dieulafoy in the *Gaz. Hebdomadaire de Méd. et de Chir.*, January 1878. M. Dieulafoy observes that he has noticed auditory disturbances in fifteen out of thirty-seven cases of chronic or acute nephritis. Mr. Downie considers that in his case the deafness was solely due to some defect in the internal ear. Probably some passing œdema or some hæmorrhage in the cochlea was the cause both of the pain and the deafness. In conclusion, it is advised that the urine of patients should be examined if they complain of sudden deafness with an obscure history. [Dr. Turnbull has a suggestive paragraph upon deafness and tinnitus aurium attending Bright's disease in the *Med. Times and Gaz.*, July 1883, p. 36.—*Rep.*]

5596. *Hutchinson on Removing Foreign Bodies from the Ears.*—In the *Brit. Med. Jour.*, April 1886, p. 690, Mr. Jonathan Hutchinson advocates the use of a silver-wire loop instead of forceps or scoop, in removal of foreign bodies from the ear. With one, or, if need be, with two, such loops placed at right angles, the author has repeatedly succeeded when everything else has failed. The method of procedure is to place the patient under an anæsthetic, to introduce the loop gently into the ear, and then to turn it about until it is believed to have got behind the foreign body. There is no danger in this method; it only requires a little care and patience.

5597. *Barth on Artificial Membrana Tympani.*—A very good modification of the ordinary cotton-wool membrane has been suggested by Dr. Barth, of Berlin. One end of a piece of cotton-wool is twisted out to the length of 4 centimètres, leaving a tuft at the other end. The handle thus made is dipped in collodion and allowed to dry. In about five or ten minutes the handle should be again twisted with moist fingers, so as to form a strong shaft of cotton-wool 1 to 2 millimètres thick, with a brush-like tuft, which can be trimmed up with scissors. The patient can easily be taught to make these artificial membranes for himself, and can renew them as often as required. RICHARD NEALE, M.D.

5598. *Gordon on Cases of Otitis and Aural Polypus.*—Dr. L. A. Gordon reports (*Proceedings of the Vilna Medical Society*, 1885, No. 5, p. 10) that he recently came across nine cases of acute and twenty-two cases of chronic otitis. Of the acute cases, eight were of purulent character, five of them being manifested after measles. The patients were mostly girls, the left ear being usually affected; in cases of both-sided affection, perforation of the tympanic membrane occurred almost always in the left ear. Instillation of a 2 per cent. solution of cucaine, repeated several times daily, usually considerably relieved pain and removed hyperæmia of the tympanic membrane. Of twenty-two cases of chronic otitis, nineteen were observed in women. A probable explanation for the greater frequency of otitis in females, is sought by the author in the fact of the meatus being shorter and straighter in women than in men and, therefore, less capable to defend the tympanic membrane from external injurious influences. Dr. Gordon found, further, that otitis which occurred after measles and simple scarlatina, yielded to the treatment incomparably more readily than otitis after scarlatina complicated by diphtheria, in which cases the morbid process usually attacked all the parts of the auditory apparatus (*panotitis*) and wrought permanent and severe lesions. The author mentions, also, four cases of aural polypus, the removal of which by means of Wilde's snare was rendered painless and almost bloodless by a previous instillation of a 2 per cent. solution of cucaine.

5599. *Moszinski on Otitis from Sulphuric Acid.*—Dr. S. J. Moszinski saw (*Proceedings of the Vilna Medical Society*, No. 5, 1885) two cases of severe otitis caused by intentional instillation of strong sulphuric acid into the auditory meatus. Both of the patients were young recruits, and resorted to this self-mutilation in order to obtain permanent exemption from military service. They succeeded so far, as both of them died from meningitis. At the necropsy, there was found also carious destruction of the sella Turcica. V. IDELSON, M.D.

5600. *Mermod on the Treatment of Chronic Otorrhœa with Borax Dressing.*—This treatment was first adopted by Bezold, whose directions M. Mermod has utilised. After a spray of air has been directed on to the tympanum and into the auditory canal, both are well washed out with a tepid solution of borax mixed with a very small proportion of alcohol; the ear is carefully dried with plugs of cotton-wool. Boracic acid is then blown into the drum of the ear by means of an India-rubber speculum; about 40 centigrammes are thus placed in the ear. An India-rubber bougie presses it well down, and above it is placed a plug impregnated with salicylate. M. Mermod treated eighty cases of chronic otorrhœa in this way with great success.

DISEASES OF CHILDREN.

RECENT PAPERS.

5601. HELFER.—Case of Tapeworm in an Infant. (*Archives of Pediatrics*, vol. ii., No. 8.)

5602. JACOBI, MARY, M.D.—A Case of Aortic Stenosis followed by Hemiplegia in a Child. (*Archives of Pediatrics*, ol. ii., No. 12.)

5603. FORCHEIMER.—A Case of Hæmophilia. (*Archives of Pediatrics*, vol. ii., No. 12.)

5604. Cerebral Effusion due to Intestinal Worms. (*Brit. Med. Jour.*, October 1885, p. 842.)

5605. ANNANDALE.—A New Procedure for the Removal of Small Calculi from the Bladder in Male Children. (*Brit. Med. Jour.*, January, p 8.)

5606. HUTCHINSON.—Partial Dislocation of the Head of the Radius Peculiar to Children. (*Brit. Med. Jour.*, January, p. 9.)

5607. RAYNER. — Cyanosis in Newly Born Children caused by Aniline Marking Ink. (*Brit. Med. Jour.*, February, p. 294.)

5608. LUCAS.—Inversion with Inflation in the Treatment of Intussusception. (*Lancet*, January 1886, p. 98.)

ART. 5601. *Helfer on Tapeworm in an Infant.*—A recent number of *Archives of Pediatrics* (vol. ii., No. 8) contains a note to the effect that Dr. Helfer, of Hoboken, exhibited to a local society portions of a tapeworm, measuring in all about five feet, which he had removed from a nursing infant five months old.

5602. *Jacobi on a Case of Aortic Stenosis followed by Hemiplegia in a Child.*—Dr. M. Putnam Jacobi contributes the notes of this interesting case to the *Archives of Pediatrics*, vol. ii. No. 12. The patient was a boy, aged 6 years, who was brought to Mount Sinai Dispensary with a history of general muscular pain and feverishness of a week's duration. When seen, there was no fever and no articular swelling or tenderness. The child was anæmic-looking, but complained of no cardiac pain or palpitations. A moderately loud systolic murmur was heard at the heart's apex; it was louder at the base, especially at the sternal end of the second right intercostal space, but was loudest of all under the right clavicle. The apex-beat was in the normal position, but very feeble. Cardiac dulness was not increased. There was no dulness under the right clavicle. Respirations, 16, feeble, but no sign of effusion or lung-disease. Pulse, 142. The diagnosis was moderate stenosis of the isthmus aortæ, from imperfect development, stenosis of the aortic orifice from uncertain cause, and patent foramen ovale. The child rapidly improved under tonic treatment. About a year afterwards, he was again brought to the dispensary. He had till then been confined to the house for a month with obscure pains in the limbs and occasional feverishness. His temperature was found to be 101°. Respiration 54, but not laborious. There was no cyanosis. There was no lung-affection, and the heart presented the same physical signs as before. A diagnosis was made of subacute rheumatism with endocarditis about the aortic valves. He was admitted to the hospital. The next day he became suddenly and completely paralysed in the left arm and left facial nerve. Neither speech nor consciousness was lost. The paralysis, which rapidly disappeared, was attributed to an embolus in the right Sylvian artery, and originating from the aortic valves. The child died at home about a month after, but no necropsy could be obtained.

5603. *Forcheimer on a Case of Hæmophilia.*—Dr. Forcheimer, of Cincinnati, contributes to the *Archives of Pediatrics*, vol. ii., No. 12, a case of this kind, remarkable chiefly for the absence of the hereditary factor in its production, the mother emphatically denying its previous existence in the family on either side. [It is not mentioned whether the marriage was consanguineous or not.—*Rep.*] The first attack of hæmorrhage occurred when the boy, now aged 11 years, was only 7 months old. He had been given a bottle to play with, and had wounded his upper lip with it. Profuse bleeding followed, and continued for several days. At the age of 2 he fell and cut his forehead, and the bleeding which ensued lasted a week, and nearly killed him. Even such a slight cause as picking his nose will bring about dangerous hæmorrhage. Blows, that in an ordinary child might produce bruises, cause in him large blood-tumours. There were several of these in various stages when Dr. Forchheimer saw him; the knees also were swollen and painful. Several arteries were examined with the sphygmograph, but the curve was normal, though the wave-velocity was variable. The most that could be deduced from that was some instability of arterial tone. RALPH W. LEFTWICH, M.D.

5604. *Cerebral Effusion due to Intestinal Worms.* In the *Brit. Med. Jour.*, Oct. 1885, p. 842, reference is made to the following case, which appeared in the German medical press. Two little boys in the same family were seized with what was supposed to be an infectious disease, with gastro-intestinal symptoms. One of the children died, and at the necropsy hydrocephalous effusion was found in both lateral ventricles. In the right hypogastric region, a piece of intestine was seen, half a mètre in length, of a deep red colour. When this was opened, an immense conglomeration of round worms was found, which completely stopped up the intestine. There were about a hundred in this mass, and several more were found in different parts of the gut. There was no trace of peritoneal inflammation. The other child was successfully treated with calomel, santonine, &c., many worms being brought away.

5605. *Annandale on a New Procedure for the Removal of Small Calculi from the Bladder in Male Children.*—In the *Brit. Med. Jour.*, January 1886, Professor Annandale reports a case in which he practised a new procedure in a boy, aged 4½, who was suffering from vesical calculus. The child was placed under chloroform, and the urethra dilated by passing

Nos. 6, 7, 8, and 9 silver catheters in succession. Before removing the No. 9 catheter, 4 ounces of a solution of corrosive sublimate (1 to 4,000) were injected. Next a small lithotrite, equal to a No. 8 bougie, was introduced. After a little time the stone was seized, and fixed between the blades of the instrument. On depressing the handle of the lithotrite, the extremity of the instrument, together with the stone, could be felt through the abdominal wall just above the pubes. The author then made a small incision in the middle line through the anterior abdominal wall, until the wall of the bladder was exposed. The handle of the lithotrite was then still further depressed, so that the blades stretched the wall of the bladder, and protruded through the abdominal wound. A small incision was then made through the bladder-wall, so that the blades of the lithotrite, together with the stone, could be pushed through the wound. The stone was then extracted, and the blades were made to seize the open ends of a No. 7 India-rubber catheter, which was drawn into the bladder and along the urethra as the lithotrite was removed, thus leaving a drain for the urine. The wound in the abdominal wall was closed by means of two horsehair stitches, and a drainage-tube inserted therein. Forty-eight hours after the operation, both drainage-tube and catheter were removed, the patient having had no bad symptoms. After the third day all the urine came through the urethra, and ten days afterwards the patient was running about the ward as well as possible. The operation is simply a suprapubic lithotomy, but it is a much less serious proceeding than the ordinary suprapubic operation. Its advantages over lateral lithotomy are these. 1. The urethra, prostate, and neck of the bladder are left uninjured. 2. It is a much more simple proceeding, and does away with nearly every risk.

5606. *Hutchinson on Partial Dislocation of the Head of the Radius Peculiar to Children.*—In the *Brit. Med. Jour.*, January 1886, p. 9, Mr. Jonathan Hutchinson, jun., draws attention to an account given by him in the *Annals of Surgery* for Aug. 1, of an obscure and frequent accident occurring in children. It is produced by dragging young children along by the arm, thus dislocating the head of the radius from the orbicular ligament. In young children this ligament has a weak hold on the cartilaginous head of the radius. The nucleous of the head of the radius does not appear until the age of 5, thus limiting pretty accurately the time up to which this lesion is commonly met. There is no deformity; the bone slips a very little downwards, and a very little forwards, and the lesion is rather one of the ligament, and not a true dislocation of the bone. The way to reduce the displacement is to gently flex the arm to a right angle, or a little beyond, and at the same time to gently but fully pronate the forearm. By this method the ligament will always descend to its right place, and again grasp the head of the radius. There is an audible click as soon as this occurs. Several cases are quoted, the following being a typical one. A little girl, aged 2½, was admitted with the left forearm semi-prone and motionless, crying with pain on passive movement. The mother, an hour before, had pulled the child up by the hand, the forearm being semi-pronated and fully extended. On full pronation and flexion a click was heard, and the symptoms disappeared. No splint is necessary, but it is well to keep the part at rest for a time.

5607. *Rayner on Cyanosis in Newly Born Children, caused by Aniline Marking Ink.*—In the *Brit. Med. Jour.*, February 1886, p 294, Mr. Rayner records a most interesting fact in connection with the use of aniline marking ink. Last July four or five newly born children in the Marylebone workhouse were found to be cyanosed, and suffering from very peculiar symptoms. Nothing could be detected to account for these phenomena, and after a few days the children became quite well. No similar cases occurred until December last, when seven children were again attacked with analogous symptoms. After some time, one of the nurses discovered that these attacks had come on when a new supply of napkins was served out; and, on examining the ink with which they were marked, it was found to contain chloride of aniline. As soon as the napkins had been washed once or twice, the symptoms disappeared entirely. A newly marked napkin was applied experimentally to a healthy infant, and at once gave rise to a train of symptoms similar to those previously observed.

5608. *Lucas on Inversion with Inflation in the Treatment of Intussusception.*—In the *Lancet*, January 1886, p. 98, Mr. Clement Lucas states that the signs of acute intussusception in children are, as a rule, quite clear—viz, vomiting, constipation, passage of blood per rectum, and the presence of a tumour to be felt through the abdominal wall, and occasionally per rectum. With these symptoms present, there must be no delay in taking active measures for relief. There are two methods of treating these cases; 1. inflation with inversion; 2. abdominal section. The manner in which the first method is performed is as follows. The patient is placed under an anæsthetic, so that the abdominal muscles become relaxed. The ankle and knee on each side are then seized, and the child is raised vertically with the back to the operator. The enema-tube is next inserted for about three inches, and the anus closed by a conical plug of lint, wrapped round the base of the tube. The tumour is then felt by an assistant, whilst air is gently pumped into the rectum by a pair of bellows attached to the tube; at first the air is forced in slowly, then more rapidly, if the tumour does not yield. When the intussusception is reduced, there are three signs which show it. 1. The tumour will be felt to gradually sink away from under the hand of the assistant. 2. A gurgle of air will at the same time be felt, and often heard. 3. The whole abdomen becomes suddenly and uniformly distended and tympanitic. The after-treatment is simple, consisting in light milk diet, and an occasional dose of opium if there be much pain.

RICHARD NEALE, M.D.

DISEASES OF THE THROAT AND NOSE.

RECENT PAPERS.

5609. BUCHHOLZ AND FAYE. — Œsophagismus, or Spasm of the Œsophagus. (*Tidskrift for Prakt. Med.*, 1884; *Nord. Med. Arkiv*, Band xvii., Häft 2.)

5610. HALL.—Laryngeal Spasm caused by Cucaine Spray. (*Lancet*, November 1885, p. 946.)

5611. ATKINSON.—The Causes and Treatment of Quinsy. (*Practitioner*, November, 1885.)

5612. LACOMBE.—Spasm of the Œsophagus Simulating Stricture.

5613. Maisuriantz, Samson A.—Two Cases of Extraction of Leeches from the Larynx. (*Proceedings of the Caucasian Medical Society*, No. 9, 1885, p. 278.)

Art. 5609. *Buchholz and Faye on Spasm of the Œsophagus.*—Dr. Buchholz describes the case of a man, aged 50, the subject of stricture of the œsophagus, apparently of cancerous nature, who had had for a year occasional attacks of increased difficulty in deglutition. The attacks increased in severity and frequency, lasting as long as four days, during which the patient could take no food, and excretion was difficult or impossible. On two occasions, Dr. Buchholz observed relaxation of the contraction after the injection of 3 or 4 centigrammes of morphia; the patient being able to swallow some meat. He regards the case as one of cramp of the œsophagus connected with the organic change, and analogous to blepharospasmus and the like. Dr. F. G. Faye reports, in connection with the previous case, that he has seen an instance of intermittent spasmodic contraction of the œsophagus. As no organic disease could be discovered, and the affection became exacerbated with the chronic rheumatism of the muscles of the neck from which the patient suffered, and improved under massage, he regards it as a nervous affection of rheumatic origin. A. Henry, M.D.

5610. *Hall on Laryngeal Spasm caused by Cucaine Spray.*—In the *Lancet*, November 1885, p. 946, Dr. H. Hall records the following case. A lady, aged 56, came under the author's care in July, suffering from asthma. On examination, it was found that both nostrils were filled with mucous polypi. Dr. Hall commenced to spray the interior of the patient's nose with a 10 per cent. solution, by means of Dr. Miller's cucaine spray. The spray passed into the patient's throat, and in the course of a few minutes she complained of a feeling of cramp in the throat. She soon became very excited, and gasped for breath, her face became blue, and the extremities were very cold. The symptoms clearly pointed to spasm of the adductors of the vocal cords. With difficulty the patient was made to recline upon a sofa, and chloroform administered, which relieved the spasm, but it was some hours before she recovered from the attack. A few days later Dr. Hall applied cucaine to the nose with a brush, and destroyed with the galvano-cautery the mucous membrane from which the polypi sprang.

5611. *Atkinson on the Causes and Treatment of Quinsy.*—In the *Practitioner*, November, 1885, Dr. F. P. Atkinson contributes an article on the subject of quinsy. It is a disease of debility, and is more or less associated with adolescence and a strumous habit. The exciting causes are sexual excesses, bodily fatigue, irregularity of meals, long-continued fasts, &c. The author advises the following treatment:—Twenty grains of bicarbonate of potash, with 15 grains of citric acid, to be taken every four hours. Guaiacum lozenges should be sucked frequently, and the following gargle should be freely used—viz., 20 minims of tincture of iodine in an ounce of water. Port wine is essential, and the patient should take from four to six ounces in the day, besides plenty of milk and beef-tea. The author does not advise giving any aperient in these cases, as the bowels will act after a time without medicines. Should suppuration take place in the tonsils, it is better to leave off the effervescing draught and guaiacum lozenges, and to depend upon the gargle and port wine.

Richard Neale, M.D.

5612. *Lacombe on Œsophageal Spasm Simulating Stricture.*—M. Gaillard Lacombe has observed two cases of œsophageal spasm under exceptional circumstances. A man, 50 years of age, excessively thin and emaciated, was admitted to M. Gaillard Lacombe's wards to be treated for vomiting after food. Fluids passed, but solid food and semi-fluids were rejected; stricture of the œsophagus was diagnosed. After progressive dilatation, performed during five days, a bougie of one centimètre in diameter was passed along the œsophagus; the patient was able to take nourishment, and his condition improved. M. Gaillard Lacombe diagnosed a malignant neoplasm. A few days later, after the bougie was passed, the patient was seized with shivering fits, violent fever, pains in the abdomen, and regurgitation of food; this condition lasted three or four days, and then death supervened. At the necropsy, the œsophagus was observed to be thoroughly normal. The peritoneal cavity was filled with pus, and the stomach presented a cancer with an extensive ulcerated surface. Four months afterwards, another patient, 41 years of age, was admitted to the wards; he was apparently dying from hunger. He vomited incessantly, and could not keep anything on his stomach; he was an habitual drunkard, and admitted it; the diagnosis was not definite; the lesion was considered to be either cancer of the stomach or alcoholic gastritis. An enlarged gland was found in the subclavicular region, which rendered the first hypothesis apparently the most probable. He rejected all he drank, in a few minutes. A bougie of one centimètre could not be passed further than on a level with the upper part of the sternum. Two days later, a bougie of two centimètres passed lower down, but it was impossible to enter the cardia. At the necropsy, it was ascertained that there was a cancer of the œsophagus on a level with the upper part of the sternum; the cardia was thoroughly intact; the stomach was healthy; its walls were slightly thickened. M. Lacombe eliminated œsophageal spasm from his diagnosis, because there was nothing to warrant the hypothesis. Spasm of the œsophagus is in the category of neuroses. Young nervous people, especially hysterical women, exhibit it. Fear or emotion often produce it; it is especially frequent among people who have been bitten by a rabid dog and fear hydrophobia. W. Vignal.

5613. *Maisuriantz on Two Cases of Extraction of Leeches from the Larynx.*—Dr. Samson A. Maisuriantz, of Tiflis, details (*Proceedings of the Caucasian Medical Society*, No. 9, 1885, p. 278) two cases of this kind, one of which occurred in a peasant, aged 50, and another in a lad, aged 16. The former complained of 'spitting of black blood,' hoarseness, and extreme embarrassment of breathing, from which symptoms he had suddenly begun to suffer about three weeks before, and which he himself attributed to having possibly swallowed a leech when drinking from a garden jug. However, domestic treatment by salt, pepper, spirit of wine, vinegar, alum, &c., had failed to bring any relief. On laryngoscopic examination, the author found a leech, as thick as a lead-pencil, attached in the sinus Morgagni, just below the vocal cords. An intralaryngeal procedure being contra-indicated by dyspnœa, the author performed crico-tracheotomy with division of the crico-thyroid ligament, and without any difficulty removed the leech by means of curved forceps. The wound speedily healed. The other patient had swallowed two leeches ten days before his admission, when drinking from a turbid street-pool. He managed, however, to remove one of them from his mouth, but the other escaped down his throat, and soon caused attacks of suffocation, hoarseness, 'spitting of black blood,' and aphonia. The laryngoscope detected a leech in the same situation as in the former case. In this patient, endolaryngeal extraction (after previous cucainisation with a 3 per cent. solution) proved successful. The leeches removed were so-called 'horse-leeches' (*Hæmopis vorax*). In the Caucasian districts, leeches are rather often found in the fauces and pharynx of the natives, who are not over-careful and fastidious as regards the quality of their drinking water. Dr. A. Kh. Grigorieff, of the Tiflis Military Hospital, met a case where a leech, after a sojourn within the larynx, had spontaneously crept out into the fauces. Dr. E. J. Krasnogladoff advises, before proceeding to any operative measures, to make an attempt at removing by means of inhalations of a salt solution. [In the *Vratch*, No. 45, 1884, p. 765, Dr. P. Smolitcheff writes that in a similar case, where a leech was found attached between the epiglottis and vocal cords, he administered turpentine-oil, a teaspoonful in a glass of milk, every three hours. After the second dose, the patient coughed up the animal, killed by the drug. Two cases of leeches in the trachea, by Fernandez y Sanchez, may be found in the LONDON MEDICAL RECORD, January 1884, p. 37. *See* also Dr. R. Neale's *Digest*, sect. 614:2.—*Rep.*] V. IDELSON, M.D.

REVIEWS.

ARTICLE 5614.

Hunterian Lectures on some of the Injuries and Diseases of the Neck and Head, the Genito-Urinary Organs, and the Rectum. Delivered before the Royal College of Surgeons of England, June 1885. With Engravings. By EDWARD LUND, F.R.C.S. London: J. & A. Churchill. 1886.

MR. LUND has adopted an unusual course in selecting so large a range of subjects for these lectures; and the book before us, charming as it is, and welcome as it must be to all Mr. Lund's old friends and pupils, is rather a pleasant discourse upon his practical experience in the treatment of a variety of diseases and injuries than a scientific study of any one, or even any allied group. But there are so many valuable hints in the treatment of trivial as well as serious conditions, that the lectures will be read with more than ordinary interest by those to whom the author addresses himself—'those who, busily engaged in practice, frequently have to deal with difficult points of diagnosis or obscure and doubtful cases for treatment.'

There is one very useful and attractive feature in the work which does honour to the author, and that is, the scrupulous honesty of the narrator in referring to his own failures and what he has learned from them. An honest record of failures would teach us all more than the successes which usually find their way into print; but with the failure we require a recognition of the causes of failure, and it is not always easy to be wise even after the event. Mr. Lund begins with a failure in the careful apposition of the edges of the skin in a face-wound, and urges the necessity of abundant fine sutures in such cases. His second case narrated was somewhat similar, in having been incompletely cleansed of grit in the wound.

He urges the wisdom of puncturing and incising the periosteum in the neighbourhood of an inflamed tooth or stump, and gives a case, which is not very uncommon, of closed jaw simulating trismus which was relieved by this simple proceeding. Such cases come under the surgeon rather than the dentist; but the pain which attends alveolar inflammation may often be relieved by this means, and we have known it to be treated by dentistry on less rational principles. He has faith in the local use of iodide of potassium in preference to iodine as an absorbent for inflamed glands; and when a gland has suppurated, he incises when two-thirds of its bulk is fluid. For the incision, he uses a narrow lancet in preference to the aspirator. We have been surprised to find how few surgeons know the usefulness of an old vaccinating lancet, ground down to about a quarter of an inch in width.

Scalds and burns are treated in a simple and practical way, which has the advantage of being possible in most out-of-the-way places. In superficial injuries of this kind in young children, he applies treacle and molasses directly over the surface, until complete cicatrisation is effected. He takes blotting-paper or soft flexible cap-paper, torn, and not cut, into strips, each about half an inch by an inch and a half. These are dipped into the treacle, and laid on the part, one by one, crossing in every possible direction and making a closely fitting mask or shield. The edges may be dusted with flour, or with any powder preferred, after wiping away any excess of the treacle. Possibly the treacle-dressing acts simply as an air-excluder; it is, however, aseptic and neutral in action, and causes no pain, and, moreover, is not offensive if it trickle into the mouth. For large scalds and burns he uses a resin ointment, in which carbolic acid occurs, and avoids the prolonged pain and nervous restlessness which result from prolonged contact with the air. This closure of the wound, he maintains, is attended by more rapid recovery and less suppuration, and less scar, for the same reason as in amputation-wounds, &c., treated upon true Listerian principles, the resulting cicatrices are smaller in size, and more pliable and elastic than after other dressings.

Nævi, hare-lip, cleft palate, and enlarged tonsils are briefly considered, and, in speaking of the last of these, a plea is put forward for the use of anæsthetics when removal is necessary in the young. And with reference to the swallowing of artificial teeth, an useful warning is given against mistaking the cornua of the hyoid bone for the ends of a plate, and a case is mentioned in which this mistake was made. Another case is given in which there had been really nothing swallowed, but the fear of having swallowed a lost plate of false teeth gave rise to dyspnœa, only relieved by the discovery of the missing plate.

Passing next to the bladder and genito-urinary organs, he cites what are by no means uncommon cases of overflow with overdistended bladder, and urges practitioners and surgeons always to carry with them a long gum-elastic catheter. We should hardly have thought this advice necessary, and might substitute India-rubber for gum-elastic. Mr. Lund is a strong advocate of suprapubic puncture of the bladder for cases of retention where the catheter cannot be passed, particularly where the prostate is enlarged; and it is interesting to note that, after using a good-sized trocar, a vulcanised India-rubber tube is passed through the cannula, which was retained without trouble or risk for as long as thirteen weeks in one case.

Hernia in children he treats with a very simple truss: a skein of Berlin wool, one end passing through the loop formed by the other end just over the hernia, and then round the thigh, to be finished off above the hip by joining the first part of the skein. This is a simple and useful truss when the child is very young, and it has the advantage of allowing the infant to be washed with it on. A fresh one can then be applied, the old one cleansed, and used again.

He mentions a curious case of supposed calculus, when a hollow sound misled him by giving a metallic click when the outgoing stream was suddenly checked; but the catheter must be nearly straight, as was the case here, the patient being a female. After ruptured urethra, he considers that contraction of the stricture increases rapidly at the age of puberty, and dilatation should be practised carefully about this time. His plan of treatment does not follow any new course, nor is his experience of the cure of such cases very well indicated. He thinks that one of the reasons that organic stricture is often lateral, is because of the adhesion of the opposed surfaces of the inflamed urethra. Instead of gradual dilatation of the stricture in a case of multiple perineal fistulæ, he adopted the reverse plan with great success, gradually diminishing the size of the catheter. Internal urethrotomy finds an advocate in Mr. Lund, but only in certain cases; and he requires that there shall be no renal insufficiency after the operation, no purulent discharge from the urethra, no exposure to chill, and quinine must be given freely. The recent proposals of Mr. Reginald Harrison may remove some of the objections to this operation, which we confess to sharing.

The last lecture treats of some injuries and diseases of the rectum and perinæum, and is of nearly equal interest. The summary we have given will probably show that in these lectures we have the ripe experience of an eminently practical surgeon upon a large class of subjects, and at the same time we have a volume of very pleasant reading.

W. W. WAGSTAFFE.

ARTICLE 5615.

A Practical Treatise on the Sputum: with Special Reference to the Diagnosis, Prognosis, and Therapeusis of Diseases of the Throat and Lungs. By G. HUNTER MACKENZIE, M.D.Edin., Lecturer on Practical Laryngology and Rhinology in the Extra-Academical School of Medicine, Surgeon for Throat Diseases to the Eye, Ear, and Throat Hospital, and to the Western Dispensary, Edinburgh. Pp. 104. Edinburgh and London: W. & A. K. Johnston. 1886.

A LARGE amount of information is contained in this interesting work, which displays an extensive acquaintance with the literature of the subject. The author describes the sputum in various diseases, mainly as to its microscopical characters. Thirty-three excellent illustrations, several of which are micro-photo-lithographs, accompany the text, and thirty-nine cases are given. The significance of Charcot's crystals, of Curschmann's spirals, of bronchial casts, of elastic tissue, &c., is discussed; and it is shown that not one of these has the diagnostic importance at first claimed for them, if we except bronchial casts as being diagnostic of croupous bronchitis. Methods of examination occur at the end of the work.

Dr. Mackenzie brings forward some interesting observations of his own—viz., of the presence of a variety of schizomycetes (cocci, diplococci, and bacilli) in certain non-tubercular cases. In one case, the disappearance of tubercle-bacilli from the sputum was accompanied by the development of multitudes of these cocci (which were quite distinct from the cocci of putrefaction); and the author hints at an antagonism between the tubercle-bacilli and these cocci, but wisely refrains from any dogmatic assertion on the subject.

In discussing the value of Friedländer's 'pneumococcus,' Dr. Mackenzie begins by saying, 'We owe to Friedländer the discovery of the organism of croupous pneumonia, the so-called pneumococcus.' This would lead any reader to suppose that Friedländer's pneumococcus was an accepted characteristic of the sputum in croupous pneumonia; but it is very properly acknowledged on the same page that the diagnostic value of this appearance is doubtful, and that 'it seems an undoubted fact that they are not confined to this disease.' A case of hydrothorax with pulmonary congestion is immediately subjoined, where the capsulated micrococci (of Friedländer?) were abundantly present. Klein's views, from the last Local Government Report, are briefly given, viz., that the capsulated micrococcus found in pneumonia which produces death in mice and rabbits is merely a septicæmic organism, which is most abundant when the sputum is kept awhile, and that, besides this kind, there is also an innocent variety. Friedländer himself acknowledges that it may be met with in other diseases.

Since the discovery of the tubercle-bacillus, elastic tissue has been ignominiously ousted from the field as a characteristic of phthisis; but although it is met with in other lung-diseases, and in laryngeal ulceration, Dr. Mackenzie surely goes too far when he says that its value in diagnosis is 'comparatively slight.'

The subject of phthisis in relation to the presence of tubercle-bacilli in the sputum occupies a large part of the work, and we are glad to see that Dr. Mackenzie says, 'Here it must be confessed that the doctrine of predisposition (receptivity) forces itself into prominence, for it is only by its adoption that an explanation can be afforded of the apparently capricious nature of the attacks of the bacillus.' The bacillary test is declared to be very valuable diagnostically, 'but it sheds little light on the course which this disease will pursue, unless in very extreme cases.' Cases showing the influence of climate (the author's main treatment) are given. Regarding inhalations, they are declared ineffectual upon the bacilli, but are useful in soothing the cough. Useful remarks on general treatment follow. Iodoform was found of no use in phthisis. The value of microscopic examination of the sputum in malignant disease of the larynx is strenuously insisted upon. Dr. Mackenzie is to be congratulated on this short but valuable work, replete with information, and containing many clinical cases.

E. J. EDWARDES, M.D.

Article 5616.

Artificial Limbs, and the Amputations which afford the most appropriate Stumps in Civil and Military Surgery. By Heather Bigg, L.R.C.P., and L.R.C.S.Edin. London: 1885.

There is much in this small book which should attract the attention of surgeons, for the mechanician's point of view is, after all, the practical one for the patient, and the possibility of making a limb useful to the wearer is of more importance than the symmetry of a stump or the amount of tissue saved by the conservative surgery of the operator. But we have before us in this work the views of a man who has had surgical and anatomical training, and can therefore see with greater clearness and knowledge the bearings of the mechanical requirements upon operative success.

There are certain general questions which should be considered carefully by operating surgeons from the mechanician's and patient's point of view—more carefully than is usually done; and there is no doubt that some of the operations upon the extremities, ingenious though they are, and saving of length of limb, are the source of constant trouble to the patient, so much so that in hospital requests for higher amputation are by no means unknown when patients see the greater freedom of movement obtained by other patients with less length of limb. The point of election in amputation will, of course, vary according to the part of the limb injured, and also with the social position and circumstances of the patient: but where the expense can be borne, and it is an object to disguise the fact of the limb having been lost, it is an advantage to have sufficient length—but not more than sufficient—for thorough leverage of the artificial limb. In this way, a certain amount of space is required below the point of bearing, so as to insure room for the mechanism, and consequently amputation through a joint is not generally recommended. The amount of covering left on the end of a stump, we have always recognised, should not be excessive; for it is a rule never to take any bearing upon the operative end of a stump, except after Pirogoff's amputation, and here the conditions are different, for there is a naturally covered bone. After Syme's amputation at the ankle-joint the entire weight cannot, according to the author's experience, usually be borne on the stump; and even after amputation in the lower third of the leg the bearing has to be chiefly at the crutch and tuber ischii, and not at the tuberosities of the tibia, for in the latter case it is found that the scar of the wound is too much dragged upon. The end of the bone should be carefully rounded off; and the author recommends a conical rasp, which seems a very rough, though perhaps serviceable, instrument.

The alterations common in stumps lead to disappointment in both patient and surgeon, unless foreseen. There is at first, especially after exhausting disease, some enlargement; then, after the artificial limb has been adapted, there is a diminution in size of the stump, generally for ten to fifteen months, and this is followed by a gradual increase in size. Recognising these changes, the author recommends, and we think wisely, the early adaptation of an artificial limb and occasional refitting of the socket, for the patient has to learn to use his new limb, and this is by no means a rapid affair. The contraction of unopposed tendons is a distinct and different question, and is much more difficult to deal with.

Considering the amputations of the lower limb from the mechanician's point of view, he would prefer a Busk's modification of Pirogoff's amputation wherever the tread of the foot has been destroyed—and by 'tread' he means the great toe with its metatarsal bone. Failing a Pirogoff's operation, Syme's is to be accepted, and such operations as Chopart's, Hey's, Lisfranc's, and the subastragalar and other similar amputations, are to be discarded. If a Pirogoff's or Syme's amputation cannot be done, then he advises amputation through the middle of the tibia for those in fairly affluent circumstances, for it is possible to adapt a serviceable and presentable foot and leg. For the working man, however, a 'box' leg is most useful, and amputation should then be performed a hand's breadth below the knee, but care must be taken not to make the stump too short. If an operation have to be higher than this, he recommends amputation through or above the knee; if through the knee and the patella be left, a 'box' leg will be most suitable for a working man, but the absence of space makes a presentable artificial limb difficult to adapt. The new substitute for the knee-joint has to be constructed upon what is called the rule-joint principle, and thus is much less strong and durable than the bolt-joint. The mechanician's *beau idéal* of operation at the knee-joint would be to amputate through the knee, and excise about two inches of the femur just above the condyles. By this means bearing could be gained on the end of the stump, and there would be room for a strong bolt-joint for the artificial knee below. When the patella is removed, a 'bucket' leg is recommended for a working man, and this takes its bearing on the tuberosity of the ischium chiefly. The same appliance is adapted after amputation through the shaft of the femur, and the longer the stump the better. The new limb, when well made, allows a variety of movements, and we find that patients can run upstairs two steps at a time, which is certainly a feat of which the mechanician may be proud.

The appliances for loss of toes, parts of the foot, &c., are ingenious, but we have referred above to principles which are of more importance to the surgeon when undertaking operations upon the limb, and he has more choice.

The consideration of the upper extremity does not give rise to any important recommendations which differ from what we have accepted in surgical works. Conservative surgery is here possible to its utmost extent, without interfering with the subsequent application of artificial limbs. But the author states that it is worth while, in amputation through the wrist-joint, to spend a little time in freeing and shortening the nerves; as, if this be done, it obviates difficulties which may otherwise arise when an artificial limb is afterwards fitted to the stump. It is especially important to retain the power of pronation and supination if possible, and the author points out that extreme tenderness of the end of the stump is very common after amputation of the forearm, unless the bones be rounded off and the nerves shortened.

After excision of the elbow an useless arm sometimes remains, but it is difficult to imagine the mechanician unable to adapt apparatus to this, which would not make the hand more serviceable than an artificial limb. The cases mentioned by the author are not explicit enough for the reader to judge whether his recommendation of amputation in such cases is justifiable. There is an instructive case given of a woman who lost both hands and both feet, and who, by artificial appliances (which have since her death been deposited in the Museum of the College of Surgeons), was able to get about comfortably, and even help to gain her living by sewing. And in another case a certain amount of voluntary movement was obtained in an artificial hand by a simple and ingenious apparatus. An India-rubber ball filled with water was retained in the armpit, and from this ball a fine India-rubber wire-bound tube passed along the arm to the artificial hand, in the palm of which was a mechanical arrangement of a piston working in a water-tight chamber. This enabled the wearer, by pressing on the axillary pad, to open or to close the thumb and fingers against a spring, according to the arrangement of the apparatus. The author looks to electricity being employed in the future as the motive power in artificial limbs.

Suggestions are made for improvements in Government limbs supplied to the army and navy; and these are, mainly, that the wooden-pin leg should have a catch-joint for the knee to enable the wearer to sit comfortably, and in the case of the upper limb the useless unjointed stump of the whole arm should be discarded, and the 'stump arm below elbow' should have an artificial wrist-joint as well as the longer stump. Both should have at least three or four useful instruments given with them, and one of the instruments should be a Nelson knife, which is a combined knife and fork.

This practical little work will be read with interest, and the views of the mechanician must be treated with respect, even if we do not follow implicitly all his recommendations. Mechanical skill in the substitution of limbs is capable probably of advancement, but the author represents the present knowledge of the art, and represents it in an attractive, practical, and unpretending manner.

W. W. WAGSTAFFE.

ARTICLE 5617.

The Year-Book of Treatment for 1885. Pp. 307. London: Cassell. 1886.

THIS book reaches the same high standard as the first volume, and forms a most valuable and digested summary of every form of treatment, both surgical and medical, which has appeared during the preceding year. Out of such a multitude of statements as are presented to us, it is only possible to draw attention to a few.

A short summary of the present state of pulmonary surgery is given, from which it appears that partial resection of the human lung has been attempted eight times, in one case only (a small sarcomatous tumour) with success; and that drainage for abscess in 19 cases, for tubercular cavities in 13, and for gangrene in 13, has benefited the patients in 10, 0, and 7 of these cases respectively.

The rapid strides that surgery is making is well exemplified by eight patients out of eighteen, under Billroth's hands, recovering from resection of the pylorus; by the good results which have occasionally ensued in cases of acute peritonitis when the peritoneum has been opened and drained; and by the steadily improving results which are being obtained in operations on the kidney, to select only a few out of the many new operations.

In midwifery Dr. Champneys presents a most exhaustive summary of the results of various methods of treating placenta prævia. For vaginal and uterine injections after delivery corrosive sublimate has lately been most extensively used on the Continent, but sufficient evidence has already been published to show how dangerous it may be. Dr. Keller has noticed that corrosive sublimate is found in the urine of two-thirds of the patients, and almost invariably with albuminuria; while not a few deaths from acute enteritis and ulcerative stomatitis have taken place.

In skin-diseases, Unna's gutta-percha plasters and the salve-mulls formed by spreading a thick ointment on undressed muslin are meeting with general approval. The only new medicament that has established its claim as a valuable addition is cucaine, every department having some use to suggest for it. At present, it stands unchallenged as the best local anæsthetic we possess.

The book is singularly free from misprints, although, on p. 22, 2,000 cubic inches space per head should of course be 2,000 cubic feet. It is, however, desirable that in future some uniform system should be adopted, instead of dividing the reports of pulmonary surgery between the physician and the surgeon, and considering Menière's disease as aural one year and neurotic the next. G. N. PITT, M.D.

NOTES ON BOOKS.

ARTICLE 5618.

Comments on Pasteur's Method of Treating Hydrophobia. By CHARLES W. DULLES, M.D., Fellow of the Royal College of Physicians and of the Academy of Surgery of Philadelphia, &c. New York: Trow. 1886.

THIS short essay, which is reprinted from the *Philadelphia Medical Record* of February 1886, purports to be a criticism of M. Pasteur's alleged discoveries in reference to the prophylaxis of rabies. The reticences of M. Pasteur, so far as the working details of his method are concerned, are utilised with a view to prove that they only conceal faulty deductions, while certain apparent inconsistencies in his various statements are severely commented upon. The author, however, gives evidence in every line of prejudice against M. Pasteur and his discoveries; while the undue importance which he attaches to slight discrepancies or modifications in the treatment, as most recently formulated, deprive his arguments of any force which they might otherwise have possessed. Dr. Dulles is not the only medical man who entertains doubts as to the fulfilment of M. Pasteur's hopes, but he is the only one whom we have found alluding to this gentleman and his discoveries in terms of studied disrespect. The whole subject is now *sub judice*, and the most rational and dignified course is to await the result with hopeful patience.

ARTICLE 5619.

A Guide to the Examination of the Nose. By E. CRESSWELL BABER, M.B.Lond., Surgeon to the Brighton and Sussex Throat and Ear Dispensary. London: H. K. Lewis. 1886.

THIS little work is devoted to the consideration of the means of examining the interior of the nose, and the author has been at great pains to render his treatise as practical as possible. The anatomy and physiology of the organ are exhaustively dealt with, as a basis for the subsequent consideration of abnormal and diseased appearances. By a series of drawings from his own pen, the author has endeavoured to convey a graphic idea of the views obtained by anterior rhinoscopy; but, although the object is excellent, their utility is somewhat doubtful, the difficulties which compass such an undertaking being apparently great.

Mr. Baber prefers the electric light as the source of illumination; but the intrinsic disadvantages of this method for home use are so numerous, that an ordinary argand burner or lamp, furnished with suitable lens, would in all probability be preferable from many points of view, even though their use involved the employment of a reflector. The illuminating power of a No. 4 Trouvé lamp is not very great, and both the battery and the lamp itself are liable to accidents and variations, which even an expert electrician cannot always hope to foresee or overcome. The book is liberally illustrated with drawings of the various instruments for anterior and posterior rhinoscopy, and a chapter is devoted to the description of common nasal affections for purposes of diagnosis. The book will no doubt be of service to those who are desirous of becoming familiar with the use of the instruments employed in the diagnosis and treatment of obstinate and often ill-understood affections.

ARTICLE 5620.

The Physiological and Pathological Effects of the Use of Tobacco. By HOBART AMORY HARE, M.D., B.Sc. Philadelphia: Blakiston. 1885.

THIS treatise on a well-worn subject is the reprint of an essay which earned for its author the Fiske Prize Fund award. It is very carefully written, and an impartial survey is made of the various authorities on the subject, the most salient feature of which consists in the great differences of opinion expressed by men of note and authority. The very existence of an alkaloid, nicotine, is called into question, while the proportion in which it is to be found in various tobaccos differs so much, according to one or the other analysis, that it is difficult to arrive at a definite conclusion. Notes are given of the results of a series of carefully conducted experiments to prove the effect of tobacco upon nutrition; and they tend to show that in quantities at all moderate smoking has little or no prejudicial effect. The physiological effect of tobacco or nicotine is gone into in detail, but, as might be anticipated, nothing new has been elicited on the subject. The author refrains from quoting cases of alleged physical ruin from the use or rather abuse of tobacco, and insinuates that people who succumb with such readiness to its influence do not in all probability possess constitutions of much stability. The most marked characteristic of the work is its studied impartiality; and while it may have done something towards elucidating the question by collating adverse or conflicting opinions, the general tenor of the book is not such as to wean the reader, if a smoker, from the use of the weed, although a beginner might seriously consider whether it were desirable to cultivate further a habit which, if not distinctly injurious in strict moderation, possesses no quality to compensate for the expense and risk which its use entails. ALFRED S. GUBB.

ARTICLE 5621.

The Pocket Pharmacopœia. By ARMAND SEMPLE, B.A., M.B.Cantab., M.R.C.P.Lond. London: Baillière, Tindall, & Cox. 1886.

THIS little work is an epitome of the new *Pharmacopœia*; it includes also short notes of the therapeutic actions of the drugs, with the natural orders and active principles of those of vegetable origin. Although the author must have given much time to the preparation of his book, it is, perhaps, difficult to see that it 'supplies a real want.' The notes given respecting the preparations of the drugs, for example, seem too few for those who are concerned with practical pharmacy, though they may, perhaps, satisfy a student wanting to 'pass the Hall.' But the 'therapeutical actions of the drugs' are described in language scarcely precise enough to meet even this slender requirement. For instance, camphor is said to be 'antiseptic, stimulant, and antispasmodic; used in rheumatism, fevers, sexual disorders, and mental and spasmodic diseases.' Again, of atropine it is said that it 'dilates the pupil, lessens secretion and pain. Used in eye-diseases, rheumatism, neuralgia, incontinence of urine, sweating, and nervous diseases.' It is a little difficult to understand whom such a dry catalogue of uses can benefit. The descriptions of the drugs, and the tests for the proof of their purity, are given at length, and appear to be the most useful part of the work, which may be regarded as a condensation of the *Pharmacopœia*, with the addition of short notes on the uses of the remedies, and the diseases for which they are employed.

ARTICLE 5622.

The Prescriber's Pharmacopœia. Revised and Edited by NESTOR TIRARD, M.D.Lond., M.R.C.P., Professor of Materia Medica and Therapeutics at King's College, &c. Sixth Edition. London: J. & A. Churchill. 1886.

THIS small pocket manual contains a notice of all the medicines in the present *British Pharmacopœia*, arranged in classes according to their action, with their composition and doses. The remedies are classed in three parts: those for internal use; those for external use; and a heterogeneous assemblage, consisting of poisons and their treatment, mineral waters, weights and measures, and a copious index. This being the sixth edition of a well-known publication, which since it first appeared in 1841 has proved very serviceable to large numbers of medical men, it scarcely requires extended notice on the present occasion. Suffice it to say that the present edition has been made extra useful by its compilation from the new *Pharmacopœia*; and that to those of our readers who are unacquainted with it, we would recommend the work as one likely to stand them in good service when engaged in prescribing. A fugitive perusal of its pages will show almost at a glance the different pharmacopœial remedies that may be used under any of the order classifications of medicines, and thus prevent that 'barrenness of prescription and consequent confined range of resources' which is alike injurious to the patient and to the reputation of the physician. The small size of the production—about 4 by 2½ inches—which fits it for use as a pocket-companion, and the general neatness of its appearance, are also subjects for commendation.

Article 5623.

THE TOWER HOUSE RETREAT AND SANATORIUM, LIMITED.

This Company has been formed to purchase or otherwise acquire the Institution known as the 'Tower House Retreat,' at present carried on by Mr. John Henry Brown, for the reception of inebriates, at Westgate-on-Sea, Kent, and of any other property belonging to Mr. Brown in connection with the undertaking. The capital of the Company is fixed at £35,000, divided into 3,500 shares of £10 each. Of these, 2,550 are now offered for public subscription, payable to the extent of £1 per share on application and £4 on allotment, and the balance as may be required by calls not exceeding £2 per share, of which three months' notice will be given; but it is not proposed to call up more than £5 per share at present. The remaining 950 shares will be issued to the vendor as fully paid-up shares, as part of the consideration for the business to be transferred by him to the Company.

The establishment was started by the present owner in 1879 for the objects above stated, and is duly licensed under the Act 42 & 43 Vict., cap. 19. From a small undertaking the institution was so successful that in 1884 the proprietor purchased the land and erected the present buildings, which were opened last year. From the rapid growth in the number of patients it appears that there is ample scope for a further development of the establishment, and it was decided to form the present Company. The property is freehold, the buildings stand in their own grounds, commanding extensive views of the sea, and the vendor has secured an optional agreement for the purchase of additional freehold land adjoining, which he also assigns to the Company. The Company have arranged with the vendor for the purchase of the whole of the freehold land and buildings, together with the furniture, fittings, linen, plate, &c., and the goodwill, for the sum of 8,500*l.* in cash, and the balance in 950 fully paid-up shares.

It is stated by Messrs. Evans & Pierson, Accountants, who have examined the books for a period extending over the past two years, that the net profit is amply sufficient to pay over 10 per cent. on the capital proposed to be called up.

The undertaking appears to be an eligible investment, and the temporary offices of the Company are at No. 1 Lincoln's Inn Fields, W.C.

MISCELLANY.

A portion of the medulla oblongata has been removed from one of the Russians who died from hydrophobia consequent on the bite of a mad wolf. M. Roux, one of M. Pasteur's assistants, will employ it for inoculating animals.

Archduke Charles Theodore of Bavaria, brother of the Empress of Austria, known as a distinguished physician, has arrived in Paris to study M. Pasteur's method. Subscriptions continue to arrive from various societies and provincial municipalities. The subscription list published by the *Journal Officiel* amounts to £25,737.

M. Lessenne, at a meeting of the Société Médicale d'Amiens, pointed out the following certain, simple, and trustworthy sign of death. After pricking the skin with a needle the puncture remains open, just as when a piece of leather is pricked. On the living body, even if the blood does not come to the surface, as would happen if the person were hysterical, the pin prick closes at once, and does not leave the slightest trace.

The Dangers of Cucaine.—M. Javal, at a recent meeting of the Academy of Sciences, stated that he has twice observed a half milligramme of cucaine produce obscurity of vision, also render extremely hard an eye with a glaucoma at its onset. This effect has also been observed in Germany. M. Javal recommends the use of gelatine tablets, instead of collyria, when experiments are made with given quantities of a remedy, and especially when energetic remedies are placed in the hands of patients.

The Poetry of Attenuation.—In the *New York Record* of Oct. 24 appeared the following:

Little drops of water,
  Little grains of milk,
Make the little doctors
  Of the homœopathic ilk.

A correspondent from Massachusetts supplements this:

Precious little bottles,
  Sitting in a row,
Filled with potent liquid
  Known as H_2O.

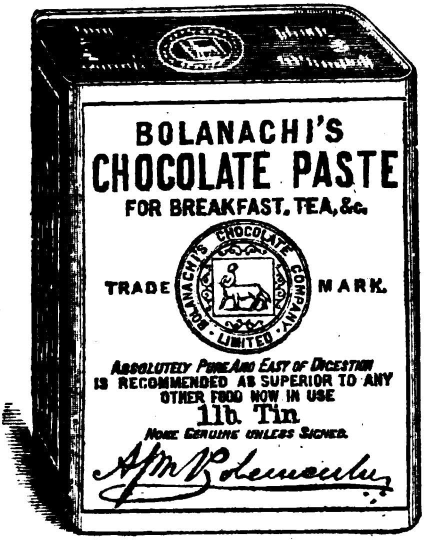
A drop of Mother Tincture,
  Humble though it be,
Makes the tenth dilution
  When poured into the sea.

Of all the gulls delusive
  The greatest is to know
Where lies the healing power
  In a drop of H_2O.

Hypnotism.—M. Liégeois, professor in the Medical Faculty of Nancy, well known by his researches on hypnotism, has made experiments to ascertain the possibility of making hypnotical persons forget names and yet feel the desire to recall them. Two medical students, one of them a lady, and both exceptionally intelligent, were submitted to the experiment. Whilst they were asleep, it was suggested to them that they had forgotten proper names. On awakening, they could not remember one, not even their own. The lady was asked to write M. Liégeois' name; she could write the first letter (L), but could not remember the others. The male student tried to help her, and after a great deal of trouble and hesitation they succeeded in writing the name entire. As soon as they turned their eyes from the paper they forgot it. M. Liégeois made several other experiments, equally successful. They were told they could repeat a name once, and it was then impossible to make them repeat it twice. It was suggested to them that they could only use the infinitive of verbs. They immediately began to talk 'nigger French.' 'Vous venir ici. Moi etudier le soir.'

Electric Light for Scientific Purposes.—Professor Wróblewski, of Cracov (*Przeglad Lekarski*, Jan. 2, 1886; and *Vratch*, No. 1, 1886, p. 23), following the lines laid down by an English optician, Chadburn (1865), has constructed an apparatus which enables the lecturer to throw on a screen a most distinct projection of non-transparent objects (such as a skull, an anatomic preparation of a limb with nerves and vessels dissected, isolated pulsating heart of the frog, circulation in the lungs or mesenterium, &c.) with minutest details. As it is well known, a candle's flame placed behind a magnifying-glass throws its (inverted and enlarged) image on a screen situated at a distance on the other side of the glass. A similar image may be obtained from any object taken instead of the candle and strongly illuminated by means of an electric lamp. Dr. Wróblewski's apparatus is based on that principle, and gives images enlarged from nine to nineteen times.

BOLANACHI'S CHOCOLATE



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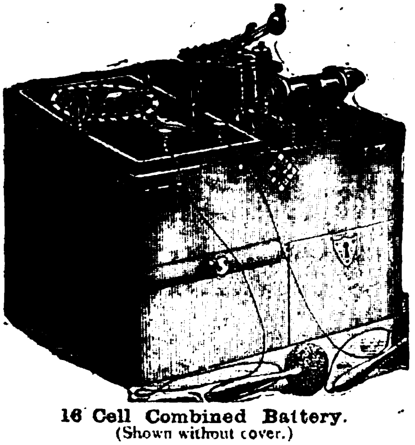

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EDITED BY ERNEST HART

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ARTICLE 5624.

LEYDEN ON THE TREATMENT OF OBESITY.

PROFESSOR LEYDEN, President of the Society of Medicine at Berlin, summarises the experiences and opinions set forth in a discussion on the above subject, as follows (*Der Fortschritt*, No. 10, May 20, 1886, from *Deutsche Med. Wochensch.*).

I fail in concluding, from the present debate, that one method of treatment may claim a signal superiority over the others; and my own experience in practice confirms me in this view. It seems to me that all the various methods possess nearly the same merit; every one of them, when judiciously persevered in, producing the wished-for result. We certainly may regard it as a material practical progress, to be enabled now-a-days to have at our command several efficacious methods of treating obesity, of which we may select that most suitable to the nature of the individual case, being at the same time agreeable to the predilection of the patient. As a general rule, we ought to be guided by the etiology of the case; *i.e.* we have to withhold that kind of aliment on which the patient has grown abnormally fat. Therefore the problem how to reduce the superfluous fat in a patient cannot be of great difficulty. The leading principles to achieve this—viz., limited ingestion of food and increased structural metamorphosis, assisted by muscular exercise, are very old, but our means of accomplishing it have enlarged. The treatment, above all, ought not to endanger the general health, and ought to lead to success without the least possible inconvenience to the patient. These two conditions form the main pivot of the present discussion. Without, however, some self-denial, the necessary abstinence cannot be carried out. All the various methods, notwithstanding their apparent diversity, agree in the reduction of food; and the modern limitation of liquids (Orth's method) is in fact nothing else. Some persons can more easily endure thirst, others hunger.

Nor can I perceive a material indication of one method being more effectual than another. With due circumspection and perseverance, every one may finally succeed. But, at the same time, all these methods are fraught with some danger; anæmia, exhaustion, and especially debility of the action of the heart, not uncommonly ensuing after such anti-fat cures, when carried on too energetically and without discrimination. Such injurious consequences may even arise, when the treatment has been undergone with proper precaution and patience. There are many fat persons, whose proper condition of health requires a certain degree of stoutness; they will become ill and weak as soon as they lose fat. The physician, therefore, ought to consider the individual nature. Young persons, on the other hand, especially men who have grown stout from too liberal indulgence in beer or at dinner-parties, will soon and without danger be reduced and brought into proper condition by due limitation of their self-indulgent habits.

The selection of the method ought to depend no only on etiological considerations, but on the individualising judgment of the physician, and partly on the preferences of the patient. And in the latter, undoubtedly, fashion plays a very pre-eminent part. No experienced physician will disregard the influence of fashion on medicine and therapeutics; fashion constitutes, I aver, a remedial agent which the physician has, in some degree, to acknowledge. Patients have more confidence in remedies which are of the fashion of the day, and more willingly submit to deprivations enforced by a treatment if this happen to be in fashion, *i.e.* if a number of well-known leaders of society and of their personal acquaintances have accepted it.

This influence of fashion we have met with in a remarkable manner in the different methods of treatment of obesity. Twenty years ago Banting's cure was in fashion, which, if used with certain rational restrictions, I still consider the best treatment. At that time persons of the better classes, who fancied or observed the slightest propensity to become stouter, adopted Banting's dietary. At present, for the same reason, they barely dare to partake of soups, and either limit to the utmost their drinks, or entirely abstain from liquids, and consider thirst a far less severe penance than any other kind of treatment.

Stout people resort with good effect to mineral waters and baths, losing there from ten to twenty pounds, thus preparing themselves for the dissipations of the coming season. They consider it a far smaller ordeal to submit for four to six weeks to the strictest abstinence in order to indulge during the remainder of the year in every luxury of the table, than to regulate their diet and to deny themselves any gastronomic enjoyment all the year through.

The rational treatment of obesity certainly falls within the province of the physician. Obesity, if not a pathological symptom, causes much discomfort and inconvenience, and may lead to various morbid conditions. Even if an individual be desirous of getting rid of superfluous fat, on account of his personal appearance, a physician ought not to withhold his advice. But, in meeting the wishes of the patient, it must be well borne in mind that there are very different constitutions. We know that some families are spare made, others very stout; it is the physiological condition of the former that all its members be lean, and of the other that they be fat. Not everybody, therefore, can become thin; and if people, who in a certain condition of stoutness feel thoroughly well, attempt to lose fat, even only moderately, very serious symptoms might arise.

In concluding with a few words on the history of this subject, I may point out that the problem of the anti-fat cure is by no means one of the exigencies of modern times, but is coeval with medical science, or what in most remote antiquity passed for that. Hippocrates has laid down hygienic and dietetic rules for the prevention and the treatment of obesity, which are too well known to require further allusion. I shall confine myself to quotations from Galen and Celsus. The former gives the following advice.

'The best method of getting thinner consists in gradually withdrawing from the body that whereof there is superfluity, and in strengthening at the same time those parts which had been expanded. Bodily exercise will undoubtedly prove very advantageous, as we see stout horses getting lean by heavy work.

Thus, likewise, those will never grow fat who are obliged continually to toil with hard labour. This, however, requires great precaution, it being certain that fat people frequently run danger of death when attempting violent bodily exercise.' And Galen says: 'Regular alvine motions, energetic bodily exercise, a moderate life, a diet which, although satiating, yields but limited nourishment; which explain why Hippocrates advises stout people wishing to grow thin to dine on vegetables cooked with fat, in order that they may become satiated by a small quantity of food.'

FERD. ADALB. JUNKER, M.D.

ARTICLE 5625.

ELOY AND HUCHARD ON QUEBRACHO.

MM. ELOY AND HUCHARD, in an article on 'The Bark and Active Principles of Quebracho Blanco,' published in the *Archives de Physiologie et Pathologie*, April 1, 1886, arrive at the following conclusions. The bark of quebracho blanco furnishes four active substances, all with different symbols and physiological and toxic properties. The active principles of quebracho modify but little the general sensibility of mammalia (guinea-pigs, rabbits, and dogs). Quebrachine, hypoquebrachine, aspidospermine, aspidospermatine, pure, do not influence general sensibility, but the residual products after their extraction apparently do. In some experiments, the phrenic nerve was more susceptible to galvanic stimulation after aspidospermine had been administered than after quebrachine.

Motility is affected in various ways. Strong doses of aspidospermine cause convulsions; small doses, fits of trembling; very large doses, rapid paralysis. One of the most remarkable phenomena observed in the animals experimented on is hoarseness, sometimes aphonia, especially in guinea-pigs; this may be attributed to paralysis of the extensor muscles of the vocal cord. Quebrachine causes muscular paralysis both more rapidly and more evidently; hypoquebrachine and aspidospermatine are analogous in action to quebrachine, but less evidently so than aspidospermine. The residual products provoke thorough and rapid paralysis. Four or five minutes after an hypodermic injection, paralysis attacks the extremities of the limbs, rapidly affects them throughout, and is alternate with tonic convulsions. Circulation is not modified either by the residual products or by hypoquebrachine or quebrachine, but the heart-beats became slower under the influence of aspidospermine, and quicker after injections of aspidospermatine.

It is important to control previous researches concerning the action of quebracho on respiration, its bark being recommended for different kinds of dyspnœa. Quebrachine does not alter either the rhythm or the depth of the respiratory movements, neither do the residual products of aspidospermatine; hypoquebrachine slightly modifies them. Aspidospermine, on the contrary, increases the amplitude of respiratory movements in the proportion of 1 to 5 in eight or fifteen minutes; then, a moment afterwards, the rhythm is increased and continues so during two, three, and even four hours; it is not like the increase in amplitude. If the dose be increased or eliminated, arhythmia occurs, and the depth and amplitude of the movements are lessened. Aspidopermine has a greater influence on the frequency of costal respiration than on abdominal. It is therefore of all the active principles of quebracho the greatest modifier of the respiratory movements. All the active principles of quebracho modify the temperature. The residual products raise it, but this seems to be due to asphyxiation. The aspidospermine which is currently sold lowers the temperature from 2 to 3 degrees (Centigrade) in a space of from thirty to forty minutes; aspidospermatine from 3 to 6 degrees in nineteen minutes; hypoquebrachine the same.

Of all these substances, quebrachine is the most antithermic. Venous blood is black when the animal is asphyxiated by the influence of residual products, reddish or red, under the influence of quebrachine, hypoquebrachine, and aspidospermatine, that is to say the substances that lower the temperature. This coloration is comparable to that observed in animals which die whilst the interchange of gases is arrested. These substances cause excessive secretion of the kidney, and the intestinal and salivary glands; hypoquebrachine and aspidospermine produce diarrhœa and diuresis; aspidospermine increases salivary secretion in dogs, urinary secretion in guinea-pigs and rabbits. The residual products have the same action on the intestinal glands and on the kidneys. All these substances can cause death. The residual substances are the most toxic; next in order are quebrachine, aspidospermatine, and lastly, aspidospermine. Death results either from asphyxia or from paralysis of the muscles of respiration, when the doses are considerable; more slowly from arrested interchange of gases, when the doses are smaller and elimination is only partially effected. By administering suitable doses of these principles, the residual substances excepted, useful therapeutic agents may be obtained. It must be remembered that quebracho is not an inert substance; if it do not realise all that enthusiasts assert, it nevertheless has certain merits. These researches were undertaken by MM. Eloy and Huchard to verify what has been asserted by previous investigators, also to study the action of each active principle of the bark. MM. Eloy and Huchard are engaged in further researches on quebracho, which will be shortly published.

W. VIGNAL.

ARTICLE 5626.

BAJENOFF ON EBERTH AND KOCH'S TYPHOID-BACILLUS.

IN the *Ejenedelnaïa Klinitcheskaïa Gazeta*, Feb. 3 and 10, 1885, Dr. Evgeny J. Bajenoff publishes the results of his researches on typhoid-bacillus, which have been carried out in the laboratory of the St. Petersburg Alexandrovsky Town Barrack Infirmary, under the guidance of Professor N. P. Vasilieff. In harmony with Eberth, Koch, Meier, Friedländer, and Gaffky, the author attributes to the micro-organisms in question a pathogenic part in regard to enteric fever, for (1) the rods described by Eberth and Koch can be found only in typhoid fever; (2) they are found in greatest numbers in the initial stage of the disease; and (3) the microbes are detected in situations excluding any possibility of their *post mortem* introduction into the system. Six bodies were examined; in four of them bacilli were found in the spleen and mesenteric glands, and then used for cultivation (while the brain, liver, and kidneys gave negative results). The cultivation was conducted after Gaffky's methods; alkaline and acid gelatine, agar-agar, sheep's blood-serum, potato, veal-broth, turnip-juice, carrot-juice, and tobacco-infusion were the cultivation-media employed, the growth being profuse in all of them, while urine proved a decidedly unfavourable medium for the typhoid-microbes. According to the author, the cultures consisted mainly of rods, the length of which surpassed their breadth about from three to five times; but there were present, also, longer threads which, on the dried specimens, proved composed of short rods. All the microbes were endowed with motion, the larger rods moving about 'like serpents.' They took stains (methyl-violet, gentian-violet, fuchsin, methylene-blue) less readily than anthrax-rods or septic micro-organisms.

Feeling sure that he had obtained the true typhoid-microbes of Eberth and Koch, Dr. Bajenoff passed to the main object of his investigation, the study of the action of various agencies on the bacillus, and arrived at the following results. 1. Experiments with boiled distilled water, as well as with boiled water from the river Neva, showed that water did not destroy the vitality of the typhoid-bacteria; on the contrary, the latter were even able to proliferate in that medium. 2. The same may be said as regards milk, though the latter is a somewhat less favourable medium than water. 3. Experiments with gastric juice proved beyond any doubt that it destroyed the vitality of the typhoid bacilli, its 'disinfecting action' belonging to hydrochloric acid alone (and not to pepsine). 4. On the contrary, pancreatic juice and bile seem even to favour the growth of the microbes. 5. Cold (the action of temperatures between −8° and −15° C., lasting from five to thirteen days) does not destroy the vitality of the bacillus, but only arrests its growth. 6. As to heat, the growth of the micro-organisms proceeds best at 37° to 42° C.; then it slackens, being arrested altogether by temperature of 45° C. A temperature of 50° C. destroys the life of the typhoid-bacteria (but not of their spores).

V. IDELSON, M.D.

ARTICLE 5627.

ROSENBACH ON THE PATHOGENESIS OF EPILEPSY.

IN the *Vestnik Klin. i Sudeb. Psikhiatr.*, vol. ii., part 1, p. 171, Professor P. J. Rosenbach, of St. Petersburg, publishes an able and interesting paper on this subject, based on his experiments on dogs in Professor J. P. Mierzejewski's clinical laboratory; the cardinal object of the researches being elucidation of the part played by the cerebral cortex in the mechanism of epileptic fits. The animal was tied down in the recumbent position, no anæsthetics being used. The fornix of the skull was removed by means of a trephine and bone-forceps. The cortex was destroyed either by means of Paquelin's thermo-cautery, or of a sharp spoon, the brain being stimulated by means of metallic electrodes from Dubois-Reymond's sledge apparatus. The results may be given as follows.

1. When a current of sufficient strength and duration is used, an epileptic fit may be obtained from every point of the surface of the cerebral hemispheres.

2. The result, however, is developed most rapidly when the electrodes are applied to the motor region of the cerebral cortex.

3. A direct irritation of any psycho-motor centres by a sufficiently strong and prolonged current induces a tetanic contraction in the corresponding limb, which lasts for a while after the removal of electrodes, and subsequently is followed by a clonic convulsion, to pass ultimately into relaxation.

4. On the use of a stronger and more prolonged stimulation, the convulsions spread from the original to other muscular groups, first on the same side (that is, on the side opposite to the hemisphere irritated), then on the other, the spreading following correspondingly to the topographic situation of the psycho-motor centres. [That is, the convulsions gradually pass from the original muscular group to the groups the psycho-motor centres of which lie in the neighbourhood of the centre originally stimulated. A topographic scheme of the canine brain, as composed by Professors Bekhtereff and Rosenbach, may be found in the author's dissertation (*see* the LONDON MEDICAL RECORD, 1886, January, p. 10), and in the *Vestnik Klin. i Sudeb. Psikhiatr.*, vol. i., part 2, p. 187. It differs in many particulars from the scheme of Unverricht, in the *Arch. für Psychiatrie*, 1883, xiv.]

5. Simultaneously with generalisation of the convulsions there appear fleeting nystagmus, followed by immovable fixation of the eyeballs with mydriasis; further, loss of consciousness and of reaction of the pupils, foaming about the mouth, sometimes involuntary defæcation and micturition, and almost complete arrest of respiratory movements. Within a few minutes, clonic convulsions gradually subside, the general sensorium remaining still considerably blunted for a while. Immediately after a fit, irritability of the cortex proves markedly increased; ten or fifteen minutes later, it markedly sinks below the normal.

6. On applying the electrodes at a distance from the motor region—for instance, to the occipital lobe—the effect is markedly retarded. It requires the use of very strong and prolonged currents, and, when it takes place at last, manifests itself in a sudden abrupt evolution of general convulsions.

7. After the psycho-motor centres of a hemisphere have been destroyed, irritation of other non-motor regions on the same side does not bring about any convulsions; the latter, however, can be still produced (on the side of destruction) by stimulation of the occipital lobe of the intact hemisphere; as to movements on the intact side of the body, they lose their convulsive character, and are more like associated movements.

8. Destruction of the motor region, made during a fit, produces a distinct influence on the latter only in cases where an extensive area has been destroyed; the consequence being then that movements of the corresponding muscles on the opposite side lose their convulsive character. When an isolated psycho-motor centre has been destroyed, the effects are inconstant and indistinct.

[The author never succeeded in having a limb completely excluded from a fit by destruction of the corresponding psycho-motor centre, as did Munk, Bubnoff and Heidenhain, &c.]

9. On directly stimulating the subjacent white substance after previously destroying the cortical layer of a psycho-motor centre, a weak current gives the same motor effect as when the cortex itself is

irritated. But when a strong current is employed, a striking difference in the behaviour of the respective structures is observed : first, while cortical convulsions last still for a while after the removal of the electrodes, the subcortical ones cease with cessation of the stimulation. Further, while 'partial' cortical epilepsy shows a great tendency to generalisation, and thus easily passes into a general epileptic fit, faradisation of the exposed white substance produces a generalised fit only after a prolonged application of very strong currents, and under the imperative condition that the area exposed is but very limited.

10. Faradisation of the medulla oblongata produces only tetanic contractions of the limbs and trunk, and sometimes nystagmus and swinging of the head. The convulsions disappear with cessation of faradisation.

11. From the results above, it becomes evident that excitation of the cortical motor area presents a necessary condition, without which faradisation of the brain cannot be followed by a convulsive fit. This excitation is *the* source and starting-point for epileptic fits. The epileptic fit induced by an immediate irritation of the white substance (*see* section 9) undoubtedly depends upon spreading of the current over the psycho-motor centres left intact. Hence, when an extensive cortical motor area has been destroyed, no epileptic fits may be induced, even after a prolonged application of very strong currents.

12. Convulsive fits induced in the dog by faradisation of the cortex are intrinsically similar to so-called 'cortical' and 'idiopathic' epilepsy in man.

13. No essential difference between 'cortical' and 'idiopathic' epilepsy exists in regard to pathogenesis. But, since the former constitutes a symptom and a result of some organic cerebral disease, and, as far as its clinical course is concerned, is not identical with true epilepsy, it must be distinguished from the latter (from 'idiopathic' or 'functional') as 'organic epilepsy.'

14. Convulsive phenomena of idiopathic epilepsy, as well as symptoms of *petit mal*, are an effect of a primary morbid state of the cerebral cortex.

15. Variability observed in the clinical manifestation of epilepsy is caused by differences in localisation, and in the way and degree of spreading of the fundamental morbid process affecting the surface of the cerebral hemispheres.

16. All theories placing the starting-point for epilepsy in the medulla oblongata and pons Varolii (Kussmaul and Tenner, Schroeder, van der Kolk, Nothnagel, &c.), utterly fail to explain either the clinical symptoms of the disease, or the mechanism of the epileptic fit. V. Idelson, M.D.

Article 5628.

DÏAKONOFF ON WINTER ITCHING (PRURITUS HIEMALIS).

In 1874, in the *Philadelphia Medical Times*, Duhring described a rare cutaneous affection, which he appropriately named 'winter pruritus,' or *pruritus hiemalis*. At the time, he thought that the disease was met only within certain regions of North America ; but in 1884, in the *Wiener Med. Wochensch.*, April 19, Professor Obersteiner published an instance of the affection which had been observed by him in an old inhabitant of Cairo. At the same time he mentioned several cases of itching which had occurred in the practice of European practitioners. Soon afterwards, in the *Vratch*, No. 22, 1884, p. 373, Dr. Müratoff published a short note on a case from his own practice, referring to a *dvornik* (gatekeeper), aged 34, 'of a Herculean constitution,' who had been suffering from pruritus for fifteen years, the symptoms appearing every year with the advent of winter-cold, and invariably disappearing every spring. The patient had also papular syphilides, which were cured by specific treatment ; but mercury did not produce any influence on the pruritus, which, however, could be somewhat allayed by cold-water frictions, and inunctions of pure tar and petroleum.

The first detailed Russian communication on the subject has been made recently at a meeting of the Ekaterinoslav Medical Society by Dr. D. J. Dïakonoff (*Vratch*, Nos. 13 and 14, 1885). His patient, a middle-aged, strongly built, well nourished gentleman, a passionate hunter, had been for more than six years suffering from cutaneous pruritus, which had occurred every year about the end of October, to disappear gradually about the beginning of April. Being very slight or entirely absent during the day-time, it invariably increased in the evening, to reach its highest and most troublesome degree during the night, and then to decrease considerably in severity in the morning. The itching increased in severity, and spreading from scratching, as well as from the high moist temperature of a *banïa* (Russian bath). It decreased, however, or even disappeared altogether for several hours under *parenïē* (beating the body with a bundle of birch-twigs, as practised in *banïas*), as well as in warmer winter days, and under the influence of mental or physical work during the night. As to the severity of the itching, the various regions of the body might be placed in the following descending order—the thighs, calves, buttocks, the lower third of the forearm, the dorsal aspect of the hands, the back (very slight), the chest (very rarely). The head, private parts, palms, and soles, were exempt from the pruritus. On examination of an unscratched itching spot, as a rule nothing abnormal could be discovered ; but sometimes there appeared pale rosy elevations of the size of a millet-seed, or less, closely simulating a pruriginous rash. Occasionally a vesicle, having a crystalline miliary appearance, was formed at the centre of a papule, and, on being scratched, burst ; while the elevation reddened and increased, to melt away in two or three days, leaving a few whitish scales of cuticle. In other cases no vesicle was formed, and then the rash after scratching assumed a close similarity to nettle-rash. The more severe the itching was, the more extensive and intense was the rash. Except slight dyspepsia and cardiac palpitation, both from excessive tobacco-smoking, no organic or functional disturbances were found in the patient. He had never had syphilis, or suffered from diabetes, or from any hepatic or renal disease. His father had had an obscure itching affection of the skin.

Discussing at some length various particulars of the case, Dr. Dïakonoff comes to the conclusion that the main part in the etiology of the affection in his patient must be attributed to the changes in moisture and temperature to which a hunter is usually exposed ; possibly, there was also some hereditary predisposition. He argues, further, that winter pruritus is a neurosis, and consists primarily in an abnormal irritation—by cold and moisture—of the cutaneous sensory nerves, which in a reflex way, through the sympathetic ganglia and vaso-motor nerves, brings about a localised paralytic dilatation of the cutaneous capillaries, with a subsequent disturbance in the nutrition of the sensory nerves. The affection of the latter manifests itself then in the appearance of itching. All conditions causing further dilatation of the vessels naturally lead to an increase in the severity of the symptoms. The anatomical cutaneous changes (rashes) would result from the process spreading on the peripheral ends of cutaneous trophic nerves, which, according to Ross and Eulenburg, run in close proximity to the sensory nerves. A radical treatment has as yet proved a failure. In Dr. Dïakonoff's case, temporary relief was obtained from frictions with cold water, strong spirit of wine, and diluted vinegar. He thinks, however, that it is worth while to give a trial to arsenic, as recommended by Obersteiner, as well as to ergot, bromide of potassium, silver, hydrotherapeutics, and electricity.

V. IDELSON, M.D.

ARTICLE 5629.

ANREP ON A CASE OF ICHTHYOSIS.

IN the *Vratch*, No. 31, 1885, p. 503, Professor V. K. Anrep, of Kharkov, details a typical case of ichthyosis, in the course of which he carried out some interesting observations. The patient, a well-nourished, normally built, but somewhat undersized youth, aged 18, had been suffering, and vainly treated, from this disease for about fifteen years. On examination, his upper and lower limbs (except the bend of the elbow and the popliteal spaces, palms, and soles) were almost entirely covered with large cuticular accumulations, which were arranged either like fish-scales, or in the shape of isolated thick patches of varying size, the thickest of them, of yellow-white colour, being present on the elbows and knees. The cutaneous lesions were strictly symmetrical. On scraping or cutting off the scaly mass at a spot, the underlying cutaneous surface was found to be uneven, bristling, or giving the sensation of a rasp.

The author has examined certain points in this case.

1. *Cutaneous Sensibility.*—This was tested after previously removing the scales, and was found intact. In other words, the sensory nerves of the skin do not undergo any alterations in ichthyosis.

2. *Cutaneous Temperature.*—Its measurements were taken simultaneously on normal and affected regions by means of Anrep's thermometer (described in the *Verhandl. der Phys. Med. Gesellsch. in Würzburg*, vol. xiv., 1880). They showed that the temperature of the ichthyotic regions was very markedly lowered (from 0°·5 to 1°·5 C.), low figures being read even after careful removal of the scales. This depression must be attributed probably to relatively scanty vascularisation of the regions affected. It is possible that, in cases of ichthyosis, there are present some congenital anomalies in the development of the cutaneous blood-vessels, in consequence of which the Malpighian cells are doomed to defective nutrition with premature horny degeneration.

3. *Daily Amount of Cuticle shed in Ichthyosis.*—This, naturally, could be determined only approximatively. For twenty-one successive days, every morning and evening, the author collected scaly masses from all four limbs (by means of scraping with the back of a knife), and then weighed them. The whole amount of cuticle obtained in that way was 115·65 grammes, which gave as a daily average about 6 grammes. If it be admitted that the daily amount of ichthyotic scales lost in other ways (during the intervals between the scrapings), *plus* the daily loss of hair, nails, and normal cuticle, were equal, also about 5½ grammes (which figure was evidently far above the normal condition), the whole daily loss of cuticle, &c., in the patient would be about 12 grammes—equivalent to 1·68 grammes of nitrogen. In other words, the daily loss of nitrogen by the skin in ichthyosis is but trifling in comparison with the general amount of nitrogen eliminated by the organism. From the author's measurements, it is obvious that Professor Moleschott's estimation of a daily loss of cuticle, &c., in healthy men (14 grammes, with 2 grammes of nitrogen) is far too high.

In conclusion, Professor Anrep lays stress on the fact that the general state of his patient did not suffer in the least, notwithstanding that there had been present an inveterate affection of so extensive a part of his cutaneous surface, accompanied by an extreme diminution, if not a total suppression, of transpiration. 'Ichthyosis may be regarded as a disease of the skin alone, far more correctly than most other so-called cutaneous affections.'

V. IDELSON, M.D.

ARTICLE 5630.

POPOFF ON THE DIURETIC ACTION OF CLOUDBERRIES AND WATER-MELON.

IN the course of a prolonged study of diuretics, Professor S. A. Popoff, of St. Petersburg (*Vratch*, No. 4, 1886, p. 34), examined the action of three remedies used as diuretics in Russian popular medicine; they were cloudberries (*Baccæ Rubi Chamæmori*; Russian *moroshka*), water-melon (*Cucumis citrullus*; Russian *arbcoz*), and dew-worms (*dojdevyĕ tchervĭ*).

1. *Cloudberries* are used chiefly by peasants in Northern Russia, in the shape of an infusion of the berries in water or vodka (aqua vitæ). Scientific medicine contains but scanty fragmentary notes on the drug; thus, Dr. Trinkovsky (*Meditz. Zeitung Russlands*, No. 44, 1856) stated that he successfully employed the infusion as a diuretic in a case of hydrocephalus in a child. [The leaves of *Rubus Chamæmorus* were recommended as a diuretic by J. Frank in 1815; *see* Trapp's *Handbook of Pharmacology*, St. Petersburg, 1869, vol. i., p. 334.—*Rep.*] Dr. Popoff first prepared a decoction and extract of the fresh berries, and then—after a series of experiments on man and animals had convinced him of the really powerful diuretic action of the drug—proceeded to isolate its active principle, after the method given by Professor A. A. Loesch for the extraction of blattic acid from cockroaches (*see* Dr. J. Tchernysheff's paper on the latter in the LONDON MEDICAL RECORD, June 1884, p. 250). He obtained in that way an acid in the shape of an almost colourless powder, easily soluble in spirit of wine, but very sparingly soluble in water. It gave crystallised and easily soluble salts with alkalies. Experiments on cold- and warm-blooded animals showed that the acid, like antihydropin (blattic acid), belonged to the class of 'essential diuretics' (that is,

drugs which act solely on the renal tissue); for, on its subcutaneous or intravenous introduction even in very large quantities, it did not give rise to any considerable changes either in the cardiac action or in the arterial tension. The diuretic action of the acid was manifest under all methods of introduction into the system, but the strongest effects were observed on intravenous injections (of 2 centigrammes of the sodic salt for each kilogramme of the animal's weight). Division of the spinal cord, of the splanchnic nerves, curarisation, &c., increased the diuretic action of the drug. Stimulation of the splanchnic nerve did not diminish the secretion of urine. But, while fully recognising that cloudberries are a good and safe diuretic, the author yet comes to the conclusion that, as such, they are considerably weaker than antihydropin and cannot replace the latter.

2. *Water-melon.*—This, by the way, was recommended by Prof. V. A. Manassein, in the *Vratch*, November 1881, p. 351, as an extremely cheap, but effective substitute for grapes in the treatment of chronic congestion of the liver, chronic intestinal catarrh, &c. It is extensively used by the peasantry in Southern Russia (especially near the river Don, and in the Caucasian districts) in the form of the freshly expressed juice, as a diuretic draught in cases of dropsy, uro-genital affections (especially gonorrhœa), &c. The author experimented with the inspissated fresh juice or syrup of the fruit, and with commercial melon-honey (*arboosnyi miod*). The diuretic action proved most striking: when animals received from 50 to 100 grammes of the syrup (with food) in twenty-four hours, the daily quantity of urine was three or four times greater than under ordinary conditions; again, on intravenous injection of the syrup, 'the urine for several minutes flowed in a stream from a cannula tied into the ureter.' On the subcutaneous injection of 0·4 to 0·7 gramme into frogs, the syrup rapidly slows the cardiac action up to complete arrest in diastole, and produces prostration with loss of voluntary movements, while reflex action and the excitability of the motor nerves and muscles remain intact. When very large doses are used, in the latest stages there is observed, also, a failure of reflexes and of nervo-muscular excitability; but the phenomenon is then undoubtedly nothing but an ordinary symptom of præmortal agony. In dogs, the internal administration of 500 grammes at a time produces no effect, except powerful diuresis. Intravenous injection of one to two grammes of the syrup causes an immediate increase in the secretion of urine, the latter assuming a dark colour, and containing sugar. This increase lasts for ten to sixty minutes, and is accompanied only by a slight fleeting decrease of the blood-pressure. On the injection of 0·25 to 0·5 gramme for each kilogramme, a considerable fall of the pressure and a great acceleration of the pulse rapidly follow. An intravenous injection of 3·0 grammes per kilogramme produces a further fall of the pressure and a fleeting increase, with a subsequent sudden enormous decrease in the frequency of the pulse, the animal dying from cardiac paralysis. As some special experiments show, the quickening of the cardiac action is dependent upon the syrup acting on the peripheral ends of the vagi. In all cases, intravenous introduction of the syrup rapidly produced a strong sedative effect, 'the animal remaining strikingly quiet, and giving no response to tactile or even pathic irritation.' Another group of experiments showed that the diuretic action of melon-syrup was dependent mainly upon its direct influence on the renal tissue.

3. *Dried dew-worms* are used by Russian peasants (especially in the Smolensk Government) in the shape of a powder or an infusion. They, also, possess a decided diuretic action, as will be shown in a forthcoming work of Dr. Shimansky, who is now studying, under the guidance of Professor Popoff, the physiological properties of this palatable drug. V. Idelson, M.D.

Article 5631.

SAMELSOHN ON DIABETIC DISEASES OF THE EYE.

In an address delivered on Nov. 10, 1885, at a meeting of the Cologne Medical Society (*Deutsche Med. Wochensch.*) Dr. Samelsohn drew attention to the fact that the relations of disturbances of the sight to diabetes are more manifold than might be generally supposed, and insisted not only that ophthalmologists should more frequently than formerly examine the urine, but that pathologists in general should study ocular changes in the diagnosis of general diseases. From this point of view, he enters upon a consideration of ocular disease in as far as it results from diabetes. In 1674 Th. Willis noticed the sweet taste of diabetic urine, and from that time different writers have drawn attention to the disturbances of sight in diabetic patients; but only in modern times has ophthalmological science clearly demonstrated that diabetes is the cause of such disturbances.

Diabetic Cataract.—In 400 diabetic patients, Frerichs found nineteen cases of cataract. There are three different views as to the origin; 1. general marasmus causing dimming of the lens; 2. excessive loss of water; 3. the presence of sugar in the nutritive fluids of the eye (lactic acid). But none of these seem to stand the test of sober criticism. Hence we are at present obliged to ascribe the dimming of the lens to constitutional and nutritive anomalies. But can diabetic cataract be clearly distinguished from ordinary cataract? There is no perfect agreement on this question. Förster asserts that there is a characteristic form of diabetic dimming of the lens; but Becker denies this. However, Dr. Samelsohn decidedly accepts the former view, for he asserts his ability to exactly distinguish between diabetic cataract and ordinary cataract in a case of diabetes. The former is a soft cataract developing and ripening quickly in both eyes of younger persons, in whom the formation of cataract is exactly concurrent with severe general symptoms of rapidly progressing diabetes mellitus. Here there can be no doubt of a *directly* causal relation between incipient opacity and deep nutritive disturbances. In these certainly infrequent cases we can diagnose the mellituria by the form of the cataract.

Very different is the case in the senile cataract of diabetic subjects. If in old people we observe the slow ripening through the usual stages, which may even appear in the sclerosis of the whole substance of the lens known as cataracta nigra, and if then the examination of the urine demonstrate mellituria, hitherto latent and now progressing, without inducing marasmus, it does not appear necessary to suppose an interdependent relation of the two diseases, but rather an *indirect* connection, as in the case of all general diseases that seriously affect the nutrition of the organism. For instance, the coincidence of albuminuria and formation of cataract does not imply, strictly speaking, cataracta nephritica. So limited is our knowledge of the pathogenesis of senile cataract, that we cannot be too critical in determining the mutual relations. The above given distinction seems the more important that thus the prognosis of the operation on so-called diabetic cataracts is considerably simplified. The operation on diabetic cataract has always been considered more dangerous than that on cataract of the ordinary type. It is also certainly true of the above given type of diabetic cataract in younger individuals, that the healing process induces more frequent disturbances than is the case with the ordinary forms of cataract in young healthy subjects.

Dr. Samelsohn has lately had a striking instance of this. In the case of a virgin, aged 22, examination of the urine showed 5 per cent. of sugar. There was already moderate marasmus. The operation was simple: linear extraction of two genuine diabetic cataracts was done, with an interval of a week. There was no disturbance during the operation. Both lenses were completely removed, and there were subsequently deep black pupils. Most unusual as it is in the case of simple linear extraction in young subjects, yet the healing process occurred quite similarly after both operations. In the entire absence of irritability, the anterior chamber remained empty for four days, and then the aqueous humour was at last restored. Granulation of the capsule supervened in one eye with gradual, and in the other with violent, iritis, so that there were grave fears for the one eye at least. On the other hand, Dr. Samelsohn has never found any difference in the healing process in the operation of senile cataract in diabetic, as compared with that in non-diabetic, subjects.

The *limitation of the power of accommodation* in diabetic subjects was formerly called diabetic amblyopia. Difficulties of accommodation in comparatively young eyes with normal refraction should, in case no other cause can be found, point to the necessity of examining the urine; and the cause will sometimes be found to be diabetes.

The *retina*, exercising a delicate reactive power on the changes in the mixture of the blood and other fluids, will naturally receive deposits from diabetes. Retinal disease in diabetic subjects takes most frequently the form of hæmorrhage, particularly in or about the macula lutea; and generally one-sidedly, being in this way distinguished from retinitis apoplectica resulting from kidney-disease. Sometimes the hæmorrhage breaks through into the vitreous body, causing ultimately what may be termed diabetic opacity of that part. Less frequent is actual inflammation of the retina, appearing in so remarkable a form that many have correctly agreed to pronounce it characteristic of diabetes. There is, namely, an accumulation of fine, yellowish, dullish-bright, little points about the macula lutea, with a number of most minute hæmorrhages between them. The arrangement of these fine exudations is altogether irregular, which, with the duller colouring, is a characteristic feature, as compared with the well-known funnel shape in nephritic retinitis.

Dr. Samelsohn adduces an appearance as seen by him in two cases, but never, as far as he knows, described. Around the macula lutea there was a perfect circle of the above exudation resembling a nimbus. These peculiar exudations point decidedly to diabetes, and thus many a latent diabetic attack may come to be detected by examination of the urine. Sometimes, also, whitish and larger exudations are seen in addition to the above, similar in colour, if not in arrangement, to those in nephritic retinitis. In such cases both sugar and albumen have been found in the urine.

The *optic nerve* may be variously affected by diabetes. 1. There may be atrophy, caused presumably either by a compressing effusion of blood in the intracranial course, or by degeneration descending from the brain. In one case, the speaker had followed an atrophic discoloration of the optic nerve, which he was compelled to regard as an ascending degeneration, secondarily induced by destruction of the retina by copious hæmorrhages. 2. Hemiopia is ascribable to an effusion of blood in the region of the optic tract, or of a visual sphere. These changes are of vast diagnostic importance, with a view to eliciting the cerebral seat of diabetes.

Particularly interesting are amblyopias without ophthalmoscopic data, in which is sometimes traced a peripheral limitation of the field of vision, or also a central defect. In one case there was sudden absolute colour-blindness, unattended by affection of the other functions of the retina. The combination of incipient cataract with this initial symptom of diabetes in amblyopia renders the diagnosis very difficult. In one case, Dr. Samelsohn had been able to mark the commencement of a circumnuclear opacity of the lens, there being at the same time so considerable a diminution of visual power, though the field of vision was intact, that the dimming of the lens could not alone account for this weakness. The examination showed the presence of a considerable quantity of sugar, and proper diet and treatment soon diminished the quantity of sugar, and restored sharpness of vision, though the opacity of the lens increased—a sure proof of the combination of opacity with diabetic amblyopia. Dr. Samelsohn expressed the opinion that changes of the choroid and diseases of the conjunctiva and cornea are accidental and not to be termed diabetic—*pace* the French authorities on the subject.

But *paralysis of the muscles of the eye* stands in closest connection with mellituria. Its great pathognomic importance for the cerebral form of diabetes is clear from the fact, that the centres of the muscular nerves of the eye extend from the bottom of the third ventricle through the aqueduct of Sylvius to the fourth ventricle, and therefore lie near Bernard's *piqûre* place. Therefore, in every case of paralysis of the muscular nerves of the eye, the urine should be examined, even in what are apparently cases of a peripheral nature. A striking case is given. A man, aged 62, hitherto healthy, and even then feeling well, presented the appearance of complete left-sided oculo-motor paralysis, in which the affection of all the fibres pointed clearly to a peripheral cause. The urine contained 3½ per cent. of sugar. Antidiabetic diet and galvanic treatment completely removed the paralysis in three months. Soon singultus occurred, lasting eleven days; and, after it had been removed, a carbuncle was developed on the anus, and in a very short time the man died. Unfortunately no *post mortem* examination could be made, but it was perfectly clear that the paralysis was an initial symptom of diabetes. It is uncertain in what relation the lethal carbuncle stood to diabetes.

But carbunculosis and furnunculosis are recognised symptoms of the latter. In one case, Dr. Samelsohn was able to verify the diagnosis of diabetes from stubbornly repeated styes. John Elliott.

Article 5632.

TERRIER ON TRANSPLANTATION OF THE EYE.*

The operation of replacing an excised human eye by one removed from an animal has now been performed five times: (1) by Dr. Chibret, in May 1885; (2) by Terrier, June 15, 1885; (3) by Rohmer, June 22; (4) by Bradford, August 1885; and by (5) a second case by Terrier, in October. Bradford's was the only successful case.

Case 1.—A staphylomatous eye was enucleated in the ordinary way from a girl aged 17, and the capsule washed out with a 0·05 per cent. solution of corrosive sublimate. The eye of a rabbit was then enucleated, a small tag of conjunctiva being preserved to facilitate its manipulation, and afterwards removed. All cellular tissue was dissected off from the sclerotic, and the eye, having been washed in the antiseptic solution, was introduced into the vacant capsule of Tenon, the conjunctiva being drawn round it by means of sutures passed through the free edge like the strings of a purse. On the fifth day the sutures, having cut a groove in the cornea in two places, were removed. On the thirteenth day, there was desquamation of the superficial layers of the cornea, and Descemet's membrane was exposed in several places. On the fifteenth day, this membrane had given way in places, but it is stated that the cornea was still sensitive. The whole cornea sloughed; the contents of the globe escaped, and cicatricial contraction took place.

Case 2.—A man, aged 30, had a recent wound of the cornea with prolapse of iris, and escape of lens and vitreous humour. The eye was enucleated in usual manner; then the eye of a rabbit was removed; a strip of conjunctiva round the cornea, and the cellular tissue on the sclerotic, being preserved. The eye, having been washed in warm solution of boracic acid, was placed in the empty capsule, and secured by eight sutures passed through both conjunctivæ. Lister's antiseptic precautions were followed throughout. Slight entropion of the lower lid occurred the next day. The eye was mobile, but the cornea insensitive. On the fourth day the eye was sloughing, and on the fifth it was removed.

Case 3.—A woman, aged 42, had adherent staphyloma, with irido-cyclitis limited to the part dragged upon, and some sympathetic trouble in the other eye. Excision of the staphyloma producing no improvement, the eye was enucleated, the capsule being syringed out with a 0·02 per cent. solution of corrosive sublimate. The eye of a dog was enucleated, a circumcorneal ring of conjunctiva 3 or 4 millimètres wide being left on the eye, as well as the cellular tissue. Having been washed in the corrosive sublimate, it was introduced, and secured by four points of suture. The cornea remained insensitive throughout, and ulcerated and sloughed on the sixth day. Three months later, the contracted stump, which had been constantly suppurating, gave rise to sympathetic trouble, and was accordingly excised. It was found to be firmly adherent to the capsule of Tenon. The sympathetic symptoms disappeared.

Case 4.—A man, aged 35, had a shrunken stump, the result of old injury. In enucleating the eye, a suture was passed through each rectus tendon before it was divided; also through the optic nerve, which was then cut level with the sclerotic. A rabbit's eye was then enucleated, the muscles being cut short, but about 8 millimètres of the optic nerve being removed with the eye. The orbital cavity having been dried, a little white of egg was run in, and the eye dipped in the same. The eye was then placed in the cavity, and secured in the following way. First, the suture was carried through the optic nerve of the rabbit, one end being cut short, and the other brought forward on to the face, the knot being so tied that it could be loosened by traction upon this end. The recti were then attached to the globe by means of the sutures which had been passed through them, and finally the conjunctiva was united by four points of suture. An iodoform pad was applied, and the eye not examined till the seventh day. There was then slight superficial opacity of the cornea, and the conjunctiva was chemosed, except externally, where over a small area the sclerotic was exposed, from the suture of the external rectus having given way. The suture of the optic nerve and those of the superior and internal recti were removed. On the twelfth day, there was slight pain. The lower suture was removed. The cornea was clearer; the conjunctiva was adherent in the whole circumference. On the eighteenth day, the shape and tension of the eye was normal. The iris was visible; all movements were good. Two months and twenty days after the operation, the form, size, and movements were normal; the conjunctiva was normal; the cicatrix of former ulceration occupying one-sixth of the cornea. The pupil was moderately dilated, not acting to light. There were some opacities in the vitreous body.

Case 5.—A man, aged 66, had severe ciliary pain after an unsuccessful operation for cataract. Enucleation was performed, the conjunctiva being cut close to the cornea. Sutures were passed through the recti, but not through the optic nerve. A rabbit's eye was removed with 2 or 3 millimètres of conjunctiva, and the cellular tissue of the sclerotic, preserved. The eye was washed in a warm solution of boracic acid. Having been placed in the orbit, it was secured by sutures passing through the muscles and the conjunctiva. On the second day, the cornea was insensitive, slightly turbid, and flaccid, and there was entropion of the lower lid. The latter was treated by painting collodion on the face; but it recurred, and caused ulceration of the lower part of the cornea. The latter gave way on the nineteenth day, and the contents of the globe escaped. The remainder was excised, and was found to have formed very firm and vascular adhesions.

The writer suggests that in a future operation the following precautions should be observed. The eye of a young animal should be chosen. The cellular tissue over the sclerotic should be carefully preserved. The optic nerve, recti, and conjunctiva should be separately sutured, so as to multiply the points of contact. To avoid the occurrence of entropion, the edges of the lids should be temporarily united. An antiseptic dressing, such as iodoform, and prolonged closure of the eye, are probably most beneficial.

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* *Archives d'Ophthal.*, January-February 1886.

The writer points out that no restoration of function could be expected to occur, although the optic nerve did unite; both Chibret and Bradford hint that such is possible. W. ADAMS FROST.

ARTICLE 5633.

CHRISTIAN ON THE ALLEGED FRAGILITY OF THE RIBS OF GENERAL PARALYTICS.

AROUND the old question of non-restraint hang a number of subsidiary questions which are not yet exhausted. One of these is the alleged fragility of the ribs of lunatics. In some asylums fractures of the ribs, perhaps not detected till after death, give rise to grave speculation as to their cause. The outside public, always ready to side against the doctors, are disposed to assign these fractures to violence used by the attendants. This summary and simple solution is naturally not favoured by the medical superintendent. Any voluntary injury or needless roughness is denied by the keepers as a matter of course, and he does not like to suspect his attendants of doing behind his back what they dare not do before his face. Without suspecting his good faith, one need not be surprised that, when a fracture appears in a patient, the superintendent would prefer assigning a pathological cause, over which he has no control, to one which under imaginable arrangements is preventable. While nobody takes the trouble to publish the struggles and accidents which occur in the best managed asylums, cases of abnormal fragility of the ribs have been published in medical journals; pieces of brittle ribs have been exhibited at meetings of medico-psychological societies; and demonstrations have been made through the microscope, showing interstitial absorption or other morbid changes in the osseous tissue. The only question is, what proportion do these cases of crumbling bones from disease bear to bones broken from needless violence? How many of the accidents in asylums are due to a fragile condition of the bones, which renders them liable to be fractured on even gentle handling?

Dr. Christian tells us, in a paper which he read to the Congress lately held at Antwerp (*Annales Médico-Psychol.*, No. 3, 1885), that when, several years ago, at the Medico-Psychological Society of Paris, he denied the existence of an alteration in the bones in general paralysis, he met with a prompt contradiction from Dr. Foville. 'The studies which I have made in English journals,' said this distinguished observer, 'and which I can check in my autopsies of the paralytics in Charenton, have made me believe that the osseous tissue, in general, in this form of disease undergoes a species of alteration which makes it more friable, so that simple pressure is often enough to break the ribs in the dead body.' 'It is true,' he added, 'that these facts are not observed in all paralytics, but especially in those who present trophic disorders.' Other French pathologists have accepted this conclusion, as Dr. Christian thinks, much too hastily.

After going over the English and German statistics about rib-breaking, which are too fragmentary to be of value, Dr. Christian referred to his own observations on the bones of general paralytics. These did not confirm the notion that they are unusually fragile. Dr. Christian observes: 'It is not denied that many of these fractures, if not most of them, are due to external violence. In the English asylums many of these accidents have been followed by judicial inquiries, and even by the condemnation of too zealous keepers; and Lauder Lindsay, who has specially occupied himself with this question, has come to the conclusion that, if England is the country of non-restraint, it is also the country of fracture of the ribs in the insane.'

'It will be said,' he goes on, 'that if there are more fractures of the ribs in the asylums, it is not because the keepers have become more violent; it is because the ribs of paralytics have become less resistent, which is owing to their bones being softer. Gentlemen, I do not believe this, and every time that I see a paralytic with a broken rib I shall seek for an external agent.

'I have, moreover, a clinical argument, which appears to me to be irrefragable. Whoever has seen and followed a general paralytic in the evolution of his disease, will recognise that it is quite impossible to hinder him from falling at a certain period of the illness. He falls at least as often and as easily as the child who learns to walk, and he falls in the same manner as the child, toppling over at the least obstacle, and making no effort to recover himself. Since I have been put in charge of the male division of Charenton, six years and a-half ago, there have been about 250 paralytics. Calculate the number of falls that these patients have made during this interval in the courts, in the staircases, in the dormitories, in the gardens, and tell me if my infirmary ought not always to contain a less or greater number of fractures. Nevertheless, gentlemen, I can affirm that during this period of six years and a-half I have only found one single fracture in a general paralytic.'

Dr. Christian adds in a note the testimony of Dr. Ingels, who, during the twenty-five years he has been at the head of the Hospital Guislain, has had very few fractures, scarcely any of which were in patients suffering from general paralysis. Dr. Morel, who has had charge of the hospital for insane women at Ghent for seventeen years, has met with no fractures of the ribs, and only three or four other fractures, of which one was in an ataxic patient. Dr. Christian concludes from all this that general paralysis does not bring along with it any unusual fragility of the bones, and that osteo-malacia, when it exists, is a purely accidental phenomenon arising from other causes. W. W. IRELAND, M.D.

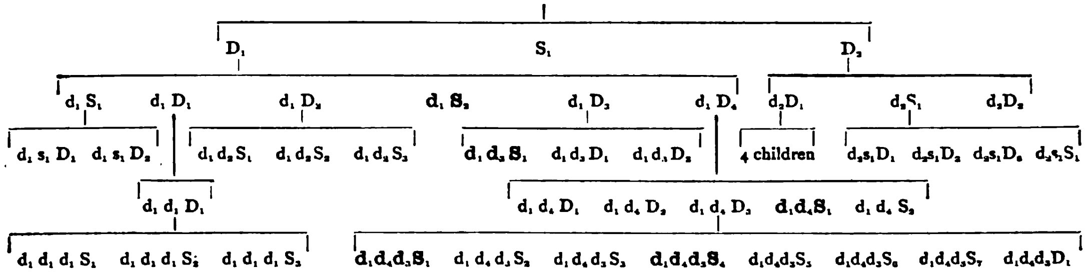
ARTICLE 5634.

HANSEN ON THE HEREDITARY TRANSMISSION OF HÆMOPHILIA.

DR. SOEREN HANSEN gives, in the *Hospitals-Tidende* of March 10, 1886, an interesting paper on the hereditary character of hæmophilia. His studies of the literature of the subject have evidently been extensive, and he has added to our knowledge of this malady through some original observations demanding much care and attention. Rothschild (*Das Alter der Hæmophilie*, München, 1882) has observed that the oldest records which we have of the recognition of the hæmorrhagic diathesis are contained in some ancient dispensations from circumcision of the male children of mothers, whose former boys had died through bleeding after this ritual operation. Dr. Hansen publishes four genealogical tables of families who lived in Jutland, or the Danish Islands, in which the descent of hæmophilia can be traced. These genealogies are reproduced with as little change as the difference of the language will allow. S stands for son, and D for daughter ; d_1 S_1 stands for eldest daughter's first son ; d_1 s_1 D_2 means the second daughter of the first son of the first daughter, and so on.

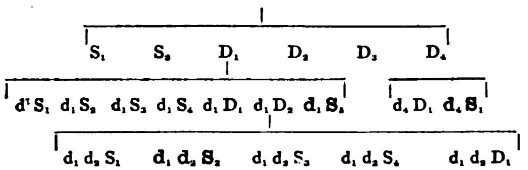
I. In the first genealogy there are twelve families, forty-five members in all. Of four of these families the sex is not given ; of the others there are twenty-one sons and twenty daughters. Of twenty-one sons, four still living have suffered from hæmophilia, and two have died of hæmorrhage. S_1 died when 12 years old of extensive bleeding from a small wound of the lips. d_1 S_2 suffered from frequent and profuse hæmorrhage, and died when 6 years old of bleeding of the legs following the desquamation of scarlatina. d_1 d_3 S_1 (aged 30), d_1 d_4 d_3 S_1, and d^1 d_4 d_3 S_4 have all presented marked symptoms of the common form of hæmophilia. Of the daughters none had hæmophilia in the usual form, but some of them have had symptoms which, taken together, may be viewed as rudimentary forms of hæmophilia. Thus d_2 D_1 died of puerperal hæmorrhage ; d_2 D_2 died of apoplexy, and d_1 D_3 suffers from chronic rheumatism. It appears from the genealogies that the hæmophilia has lasted for four generations.

I.



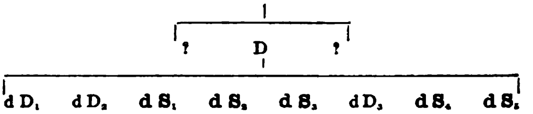
II. In the second genealogy there are four families with twenty members in all—twelve sons and eight daughters. There are three males affected with hæmophilia, but all the daughters have escaped. d_1 S_5 died at the age of 6, of epistaxis ; d_4 S_1 who died, aged 37, unmarried, and d_1 d_2 S_2, who died aged 10, were both affected by hæmophilia to a marked degree. Of the genealogy of the other members, I am able to say that none of them had hæmophilia. d_1 D_2 is herself healthy, but all her children are small, slender, and delicate.

II.



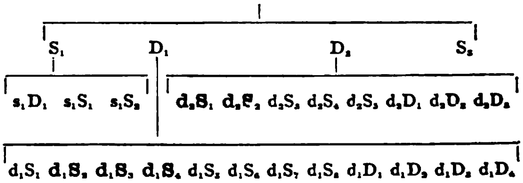
III. In the third table, Dr. Hansen observes, we have examples of many cases of congenital hæmophilia. The father of the family is of a healthy stock, and is himself healthy. Of the mother's family history, nothing can be learned. As a child she was scrofulous, and menstruation was early. Latterly she has had no disorders in this function. Once she had pneumonia with bloody expectoration. She has had two miscarriages, and gave birth to a stillborn male child three weeks before the time, having had placenta prævia. She has borne eight living children, five boys and three girls. During these labours, she has never suffered from abnormal bleeding. Of the eight children, all the five sons were troubled with hæmophilia to an excessive degree ; three of them died in the course of the first year, and of the other two one died when 10, the other when 11 years old. Of the daughters, one died two days after birth, another died when 8, the third when 16 years old. None of them showed unequivocal symptoms of hæmophilia, but the two girls were both somewhat feeble in health, and in the eldest menstruation commenced early.

III.



IV. In the fourth genealogy it may be said with certainty that there is hæmophilia in the last—that is, the third—generation, though the origin was obscure. The grandfather suffered from habitual epistaxis, of which he died at the age of 63 ; but he had good health and had shown no other marks of hæmophilia, neither did they find any in his family. The grandmother died of chest-disease when 51 years old, without having hæmoptysis or any other abnormal bleedings such as were met with in her family. They had five children, of whom D_1 had slight bleeding from the bowels, and S_2 had epistaxis in infancy, although no other sign of hæmophilia was noticed. In the last generation there were five sons with more pronounced hæmophilia : d_1 S_2 died at five years of age of epistaxis, d_1 S_3 died at two years of age of bleeding of a wound on the forehead, and d_1 S_4 died, aged 18, of phthisis (inherited from the mother's side) with hæmoptysis ; d_2 S_1 lived till his ninth year, and had bleedings from

IV.



childhood, 'the blood ran down from his neck'; d_2 S_2 died when eight months old of bleeding at the bowels. Six other children of this generation, all sons, had no visible sign of hæmorrhagic diathesis. One died during the first year of his life, and only four of the five sons are still living. On the other hand, all the eight daughters of the same generation were healthy.

The unusual fecundity peculiar to families which have hæmophilia does not appear to be present in Denmark. Some of these families have many children, but all four generations are under eight in number. We count one hundred children in twenty-two families, on the average four or five children to a family, which is as many as in other countries.

W. W. Ireland, M.D.

Article 5635.

THORNTON ON GASTROTOMY FOR THE REMOVAL OF A LARGE MASS OF HAIR FROM THE STOMACH.

In the *Lancet*, January 1886, p. 57, Mr. Knowsley Thornton publishes in full a very remarkable case of a girl, aged 18, who was sent to him by Mr. Symonds, of Oxford, on account of an abdominal tumour. Mr. Thornton diagnosed an accumulation in the colon. He advised frequent doses of castor-oil, and large enemata. Under this treatment, she passed a small concretion of hair and fæcal matter; and on a further examination, the patient stated she had for years past eaten her hair-combings. Still the author thought the mass was in the colon, and advised another prolonged attack upon it with castor-oil and enemata. This again proving useless, the patient was admitted into the Samaritan Hospital, in order that Mr. Thornton might perform abdominal section, he being quite prepared to open the colon or the stomach, if necessary.

Accordingly, on May 6, 1884, an abdominal incision was made in the middle line, beginning two inches above the umbilicus and passing on its left to one inch below it. On exposing the stomach, a hard mass, evidently moulded to the viscus, was exposed. By enlarging the first incision, a great part of the larger curvature of the stomach was brought out between the lips of the abdominal wound. After packing sponges all round, a transverse incision, five inches long, was made through the coats of the stomach, exposing the mass of hair; this was extracted by a pair of vulsellum-forceps. After carefully wiping away the mucus, the stomach was well cleansed with carbolised sponges. Fifteen sutures of fine carbolised silk were then introduced, through all the coats of the stomach, and passed so as to control the cut vessels, leaving no need for ligatures. Between each two deep sutures another suture was passed, but only through the peritoneum. When all these sutures were tied, there was some inversion of the peritoneum, and the two outer and upper edges of the peritoneal edges of the depression thus formed were brought together by a continuous suture of very fine carbolised silk. The external wound was then sutured whilst the nurse counted the sponges, giving the number correct.

Next morning, the patient suffered from retching and severe pain about the umbilicus, and the nurse said she had found a sponge was missing. Mr. Thornton then decided to open the wound, and on removing a few sutures he found a sponge under the upper part of the abdominal wound. Before closing the wound he passed sponges into the pelvis and both loins, and found them all dry and clean. All went well until the fourth day, when the right parotid gland began to swell, and next day an incision was made, but no pus escaped. On the sixth day the left parotid swelled, but this was not incised. On the seventh day the bowels were well opened, and the patient began to improve, so that, on the twentieth day, she was able to be moved into the convalescent ward, leaving the hospital, twenty-nine days after the operation, quite well.

The attack of swelling in the parotids was probably due to a chance attack of mumps, and not septic. The mass of hair weighed two pounds. The patient was in good health when the case was published some months after the operation. [Vide *Medical Digest*, sects. 854 : 1, 855 : 3.—*Rep.*]

Richard Neale, M.D.

Article 5636.

DUNCAN ON RE-INFUSION OF BLOOD IN PRIMARY AND OTHER AMPUTATIONS.

In the *Brit. Med. Jour.*, January 1886, p. 192, Dr. John Duncan describes a method of utilising the blood lost in amputating a limb, by mixing that which escapes during the operation with a solution of phosphate of soda and injecting it into one of the veins. The following case is noted.

A man received a serious railway injury, which crushed the left leg, so that amputation through the lower third of the thigh became necessary. Before he arrived at the hospital a large quantity of blood was lost, and it was eight hours after the accident when the author first saw him. He was pallid, and much collapsed. Every remedy was tried to restore the pulse; but it soon became evident that the shock of the operation would kill him, unless intra-venous injection were performed. The patient was placed under chloroform, followed by ether, and the limb was rapidly removed. The blood which fell from the limb (about three ounces) was caught in a dish, containing solution of phosphate of soda. After the arteries had been tied, it was hard to say whether the patient was dead or alive; but Dr. Duncan proceeded to inject the blood and phosphate of soda, until about eight ounces of fluid had been thrown into the femoral vein on the face of the stump. The patient was quickly put to bed and kept warm, and brandy was administered in frequent small quantities. Eventually, he made a complete recovery.

In performing this operation, it is necessary to have the solution perfectly fluid, and to see that all the instruments are aseptic. The author uses a short glass tube, of the size of a No. 6 catheter, having a pen-shaped point to introduce into the vein of the receiver. To its other end is attached about two inches of India-rubber tubing. The fluid can be injected by means of a simple four-ounce glass syringe, the temperature being kept up by surrounding the syringe with lint wrung out of hot water. The vessel which receives the blood is kept floating in warm water. The author has used this method in many cases of pernicious anæmia, when he has injected blood from a healthy person into one of the veins of the arm of an anæmic patient. The solution of phosphate of soda should be about 5 per cent., and about one part of this added to three parts of blood is best in cases of anæmia, but in amputation cases it is better to use about half and half. RICHARD NEALE, M.D.

ARTICLE 5637.

HOCHENEGG ON SYMMETRICAL GANGRENE.

THE *Medizinische Jahrbücher* for 1885, No. 4, contains an important paper by Dr. Hochenegg, on 'Symmetrical Gangrene.' The paper commences with the bibliography, which is the most complete that has yet appeared, as the author records no fewer than 137 papers on the subject. He comes to the conclusion that these record only a common symptom; and he considers the symmetry as being unimportant, and would therefore include all cases of gangrene in which no disease of the circulatory system is discovered: *e.g.* acute decubitus, and the terminal gangrene which often occurs in old cases of hemiplegia or from frost-bite.

[This surely is a retrograde step, and, so far from increasing the number of cases included under our heading, it would be far better to exclude such cases as those on which the paper is grounded, in which the gangrene is due to a gross nerve-lesion. Still, the difficulty is really a clinical one, as hitherto we have often failed during life to distinguish between the cases due to nerve-lesion and those due to abnormal blood-conditions.—*Rep.*]

The earliest case on record seems to be that of a woman, aged 26, who suffered from sensations of heat and pain in her fingers and toes for a long time, and ultimately lost several through gangrene. This was published by Christopher Hertius, of Nassau, in 1685.

The causes of symmetrical gangrene may be thus classified. 1. *Exhaustion due to long-continued absence of rest and sleep.*—The author relates some cases of soldiers, who, after long and exhausting marches in damp regions, were affected with symmetrical asphyxia and gangrene; also the case of two children who had previously suffered with chilblains, and were admitted with small blebs, of the size of peas, on the dorsal surface of the toes, while the fingers were cold and of a blue colour. 2. *Chlorosis and anæmia.* 3. *Acute infectious diseases and chronic inflammations (excluding cases where the blood-vessels are affected).*—Many cases of gangrene after typhus, ague, scarlatina, measles, and small-pox, have been recorded. 4. *Hysteria.*—The evidence adduced for adding another symptom to this omnivorous disease is of the scantiest. He relates the case of an hysterical woman who morning and evening had attacks, during which her fingers became blue and cold, and which were sometimes accompanied by faintness and chattering of her teeth. 5. *Neuritis.*—Monnstein has recorded a case of gangrene of one foot, in which extensive chronic inflammatory changes were found in the nerves of both lower extremities. Hilton recorded a case of callus due to fractured radius pressing on the median nerve, causing ulceration of the thumb and first and second fingers. On flexing the hand and removing the pressure, the ulcers at once healed, only to break down again as soon as the pressure recurred. Pitres and Vaillard have recorded cases of gangrene of both feet (*a*) in a girl, aged 24, who had diffused sclerosis of the nervous system with well-marked peripheral neuritis; and (*b*) in a man with peripheral neuritis. 6. *Disease of the Brain or Spinal Cord.*—The paper concludes with a very full detailed report of the following cases. *a.* A man, aged 51, six years previously had a sudden attack of weakness of the right lower extremity, which persisted, together with gradually ingravescent anæsthesia of the body and upper limbs. Five days before his death the left upper extremity became swollen, livid, and anæsthetic, with bullæ on the dorsum, and ultimately passed into a state of diffuse cellulitis, which required incisions. Two days before his death, the fingers of his right hand became gangrenous. The inspection showed chronic hydrocephalus, with syringomyelia extending from the fourth cervical to the fifth dorsal region, with ascending degeneration in the posterior columns and cerebellar tract, and descending degeneration in the postero-lateral column on the right side. *b.* A man, aged 34, with ataxic gait and anæsthesia (tabes dorsalis?) had ultimately to have a foot amputated on account of gangrene of the toes; and, later on, gangrene appeared in the other foot. The vessels and nerves were normal, and there was no evidence of leprosy.

The author alludes also to those cases of gangrene associated with diabetes and albuminuria, but he entirely omits all reference to intermittent hæmoglobinuria, to scleroderma, or to thoracic tumour, which have been several times observed as causes of symmetrical gangrene.

[A very interesting case, which has not hitherto been published, is referred to in Dr. Fagge's *Medicine*, vol. ii., p. 80, of a girl, aged 26, who had cold, blue, shrunken fingers, which were also tender and painful, and ultimately became gangrenous. *Post mortem*, a mediastinal growth was found involving the first dorsal nerve and the sympathetic trunk.—*Rep.*] G. N. PITT, M.D.

ARTICLE 5638.

ROSER ON LAPAROTOMY IN ILEUS.

IN an article on this subject in the *Deutsche Med. Wochensch.*, No. 5, 1886, Prof. Roser, of Marburg, alludes first to the fact that in Germany 4,000 deaths occur from ileus; that in England in 1882, out of a population of 26,000,000, there were 1,822 deaths from ileus in the stricter sense of the term, 232 from stricture of the bowels, 470 from intussusception, or in all 2,524 from internal obstruction, and in addition 1,141 from strangulated hernia. Laparotomy should reduce these numbers, and would do so if surgeons could overcome their fear of this proceeding. In his own practice, Professor Roser has passed from fear to confidence with regard to the operation. He has had failures as well as successes, and hopes to help younger men by telling of his own accidents and faults. He has observed four cases of stricture caused by pseudo-membranous bands. In one case, the fingers on being introduced into the wound felt a cord, that was tightly bound round a loop of the small intestines near the cæcum. This cord he broke with his fingers, and the constriction was removed. The patient was discharged cured in twelve days. In another similar case, he was compelled to use the scissors on account of the strength of the band. In two cases he was unsuccessful, owing in one to the corpulence of the patient rendering it impossible to ascertain the seat of the obstruction, and in the other to the extreme weakness of the patient. Yet he considers he made a mistake each time in not resorting to laparotomy.

He warns against *spurious reduction of hernia*, as having deceived the most skilful men, and points out that he has in his *Anatomische Chirurgie* a special chapter on this subject. He has seen cases in which spurious reduction was wrongly suspected. For instance,—a strong peasant woman, aged 34, had a feeling of fulness in the groin, and had often, as she thought, pushed back a rupture; but one day she had violent local pain, accompanied by constipation and vomiting. The medical man whom she consulted, assuming a constriction of a hernia, made a trial incision in the direction of the crural ring, but, finding nothing, stitched the wound up again. Another surgeon consulted Prof. Roser, being uncertain whether it was a case of internal constriction or a reduction *en masse*. The region of the crural ring was so sensitive from the effects of the former operation, that, palpation being impossible, Roser examined from the vagina in the region of the foramen ovale, but found no anomaly. He therefore considered an internal strangulation to be most probable, and determined on median laparotomy. At once, on introducing his hand, he felt a loop of gut extending into the foramen ovale. On pulling it out, he found gangrenous discoloration at the point of it, of the size of about 3 centimètres. Resection was performed, but the woman died two days later. Roser now thinks it might have been better to have laid bare the foramen ovale, opening the hernial sac, and letting the watery contents discharge outwards.

The most common form of *apparently* spurious reduction Roser considers to be when a loop, which has been constricted and reduced by taxis, has not been restored to its normal condition, but has succumbed to secondary paralysis and gangrene, in the way which Cohnheim has experimentally demonstrated. Such a case was the following. In a boy, aged 14, an inguinal hernia had been reduced, but ileus continued, which led Roser to think of spurious reduction. Section of the abdominal muscles above the crural arch showed, however, no spurious reduction, but local inflammation of the peritoneum near the loops of the small intestine situated there. The small loop was gangrenous, and therefore an artificial anus was made. Death ensued, and the *post mortem* examination proved that there was no spurious reduction, but circumscribed gangrene of the intestinal loops along with peritonitis.

In a case that appeared to be quite similar to the last mentioned, it was found that there was a perityphlitic abscess, which had arisen from perforation of the vermiform process. And generally the symptoms of perityphlitis and ileus may be very similar. It is clear that a distended abscess pressing on the cæcum may cause ileus as well as any other obstacle. But formation of an abscess is not necessary to produce ileus, for the latter may be caused by adhesion, inflection, and retraction, arising from local peritonitis. And when this local peritonitis is developed after taxis or herniotomy, the doubt may arise whether one has not to deal with spurious reduction. A case is given of spurious reduction, which would not have occurred if the hernial sac had been opened instead of being merely exposed. An old man with a small femoral hernia was carefully operated on, the crural ring being distended, and slight pressure put on the constricted hernia. One could feel the gut being emptied and slipping back from the hernial sac. Though all seemed to promise well, the man died of ileus, and the *post mortem* examination showed adhesion of the gut to the hernial sac. The operation had removed the constriction, but a sharp bend had remained. Now, if the hernial sac had been cut, this bend would have been observed.

In a case of volvulus of the iliac flexure, untwisting was done easily; stools followed at once, but next day there was again an obstruction, and the patient died. The *post mortem* examination showed that volvulus had again occurred. This experience led Roser to adopt the plan of stitching the rectified flexure (the upper part of it, which nearly always causes the mischief) to the left abdominal wall, in order to prevent a repetition of twisting. It may also be well, following the example of Clark, of Glasgow, not to stitch up the belly until one is certain that the large intestine is properly emptied by proper manipulation and cleansing.

In 1878, Roser performed enterotomy for stricture of the bowel, which had remained after throwing off an invaginated portion of the small intestine. The patient suffered occasionally from attacks of ileus, accompanied by much vomiting, which, however, was always amenable to treatment. The belly was swollen, from deficient action of the upper portion of the bowels. Roser proposed laparotomy and the formation of an artificial anus close to the stricture, with the intention of subsequently separating, with Dupuytren's clamp, the stricture along with the partition between the upper and lower portion of the intestinal loops. On opening the abdominal cavity, he found a hard ring-shaped stricture in the middle of the small intestine, in the upper part of which there was fulness and hypertrophy, and in the lower comparative emptiness. The stricture was of a valvular character. The small intestine was opened and emptied above the stricture, the affected loop being drawn out as far as possible while the patient lay on his side. The loop was then stitched and fastened to the opening of the abdominal wall, with threads and loops carried outwards. Unfortunately, this fastening was burst an hour later by an attack of vomiting, probably brought on by the chloroform. Acute peritonitis caused a fatal termination. The mischief in this case was probably that the mesentery at the stricture was very much shortened. If he should have another similar case, Roser proposes not to stitch the gut to the abdominal wall, but, following Maisonneuve's plan, to endeavour to bring about the 'anastomosis' of the portions of the intestine that lie above and below the stricture. He would join the ends in the same way as Wölfler has taught how to establish a fistula between the stomach and the small intestine. After giving some more cases (cancerous stricture and ileus traumaticus), Professor Roser closes his article by alluding to the impossibility of properly attending to such cases at a distance, and calls upon medical men to avoid one great source of danger—viz., delay—by making early arrangements for consultation, or by inducing the patient to go into hospital in good time.

JOHN ELLIOTT.

ARTICLE 5639.

SCHOTT ON THE TREATMENT OF CHRONIC HEART-DISEASE.

THE observations of Dr. Schott, of Nauheim (*Berliner Klin. Wochensch.*, 1885, Nos. 33-36), since 1871, extend over 300 cases, and the clinical histories of a fair proportion of these are followed up. It will be remembered that Stokes was the first to advocate a life of active exercise in chronic heart-disease. Indeed, Stokes went so far as to say that, for a man with well-compensated valvular lesion, the greatest misfortune that could happen to him was to have his cardiac trouble discovered by a medical man. This was because a number of restrictions were, as a rule, imposed upon his usual mode of life, all tending to a debilitating illness. The consequence was that the heart-muscle, like the other muscles of the body, lost strength, and dilatation of the heart supervened earlier than would otherwise have been the case. Stokes's doctrine, of the positive value to the heart of a life of activity, has received more attention on the Continent than amongst his own countrymen. In Germany especially it has been developed into a complete system of treatment, on various lines. Oertel, as is well known, prefers hill-climbing to any other method, care being taken to ward off any threatening dyspnœa by repeated stoppages, and by making a few deep voluntary respirations before proceeding. This mode of exertion is selected partly also from a desire to unload the venous system, and the right side of the heart in particular, by diminishing the volume of the blood generally; and the excessive perspiration induced by mountain expeditions does this gradually and effectually, the supply of liquid being duly restricted by removal of the excess of water from the blood.

Dr. Schott makes great use of stimulating baths, together with the systematic exercise of the various muscles of the body at home by the aid of an assistant; but the bath is made apparently the chief element of the treatment. An artificial Nauheim bath (apart from carbonic acid) may be rudely imitated by adding to softish water 1 to 1½ per cent. of common salt, and as much per mille of chloride of calcium, the temperature being 93° F. Very weak patients have the water a little warmer, but not beyond 96° F.; and in all cases the bath should be a short one, a second chill being avoided. The baths are gradually made stronger, cooler, and the patient remains in longer, according as he improves. The full strength is from 2 to 3 per cent. of chloride of sodium, and from ½ to 1 per cent. of chloride of calcium, with carbonic acid. The last named may be supplied artificially by adding equal parts by weight of bicarbonate of soda and hydrochloric acid, the full strength being 1 kilogramme of each in a bath of 250 litres. But much smaller quantities suffice at first.

The exercises consist of various movements of the limbs and trunk, each movement being opposed by an assistant, who gives way as the patient exerts his strength. The greatest care is taken that the patient breathes easily the whole time. The details may be found in Dr. Schott's original article (*Berlin. Klin. Wochensch.*, Nos. 33-36, 1885), reprinted as a pamphlet by Schumacher, of Berlin.

The therapeutic results have already been summarised in these columns. Suffice it to say, that diminution of the cardiac dulness during a course of baths can be actually demonstrated, and, as a rule, the improvement in the patient's condition is immediate and striking.

No alteration is made in the solid food, but Dr. Schott has for years restricted the fluid supply whenever high arterial pressure existed. Finally, mountain tours are recommended where there is obesity, but in moderation.

This system of baths and exercise is a rival to Oertel's mountaineering system, and possesses certain advantages in that it can be adopted at home, and can be regulated to a nicety to suit the patient. But Dr. Schott's observations lack the scientific precision of Professor Oertel's. It is earnestly to be hoped that a more active life may be ordered by medical men generally in the treatment of heart-disease. It is to be feared that a merely passive existence is still widely recommended to any unfortunate patients with (mitral) valvular lesion and dyspnœa. E. J. EDWARDES, M.D.

ARTICLE 5640.

GASKELL ON VISCERAL NERVES.*

THE structure and function of the nerves innervating the visceral and vascular systems is a subject to the elucidation of which many observers have contributed valuable facts, especially in relation to the nerves supplying the heart. Yet, though many facts are now known, it cannot be said that much progress has been made in this department of physiology. What has chiefly been needed is a combining of facts with the object of arriving at some generalised idea of the function of visceral nerves, so as to indicate the right direction for future research. While adding to our knowledge of the subject, Dr. Gaskell, in a late paper in the *Journal of Physiology*, has brought forward arguments for the acceptance of a theory of generalisation of function of visceral nerves, which will prove of great value in future investigation. In his communication, he has considered only the nerves of the visceral and vascular muscles, the glandular nerves being reserved for a future paper.

The general anatomical facts which are considered first form one of the most important parts of the paper. The dog was taken as a standard, for two reasons; first, because the distribution of its nerves bear a close resemblance to those of man; and secondly, because we possess a greater knowledge of the function of its visceral nerves than of those of any other animal. It is noticeable that Dr. Gaskell uses a more morphological and correct nomenclature than that in common use; thus he calls the sympathetic chain the chain of prevertebral or collateral ganglia; the ganglia near the organs, the terminal ganglia.

It is shown that the visceral nerves leave the central nervous system in definite sacral, thoracic, and cervico-cranial regions. First, with regard to the thoracic region; the visceral nerves are those which leave the spinal cord in the roots of the second thoracic to the second lumbar nerves inclusive, passing in the white rami communicantes, which 'alone constitute the rami viscerales of the morphologist.' Further, by a study of osmic acid sections of the anterior roots of the nerves between the limits mentioned, it is found that they differ from the anterior roots of the cervical nerves above and the lumbar and the first sacral below, in possessing a large number of very small medullated fibres, of 1·8 μ to 2·7 μ in diameter, as contrasted with the size of the largest medullated fibres, which are 14·4 μ to 19 μ in diameter. These very small medullated fibres constitute the ramus visceralis, since they can be traced into the white ramus communicans. Secondly, corresponding with the absence of these characteristic fibres, there is no outflow of visceral nerves from the spinal cord in the lumbar region. But in the sacral region (roots of the second and third nerves), the fibres again appear in the anterior roots; and from these nerves arise the visceral nerves of the pelvic organs, the nervi erigentes. Since these nerves are similar to the splanchnics, they might correctly be named the pelvic splanchnic nerves. Thirdly, in the cervical region, as was stated above, there are no white rami communicantes, and the only outflow of visceral nerves that occurs is in the cranial region, where the internal branch of the spinal accessory constitutes the ramus visceralis of the upper cervical and vagus nerves, passing outwards to the ganglia on the main stems of the vagus and glosso-pharyngeal nerves.

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* On the Structure, Distribution, and Function of the Nerves which innervate the Visceral and Vascular Systems. By W. H. Gaskell, M.D., F.R.S. *Journal of Physiology*, vol. vii., No. 1.

These anatomical details concern only the mode of exit of the visceral nerves from the central nervous system. A completion of the study is still wanting in two directions; first centrally, secondly peripherally. Gaskell leaves these questions for the present undecided, and proceeds to discuss the special nerves of the visceral and vascular systems. These nerves are, physiologically, divided into two sets; one motor, such as the vaso-constrictor, the augmentor and accelerator cardiac nerves, and the viscero-motor nerves; the other inhibitory of the heart and viscera, and vaso-dilator. As regards the vaso-motor nerves, it is known that they all come from the central nervous system, leaving it in the anterior spinal roots among the finest medullated fibres of the nerves between the second thoracic and second lumbar inclusive (in the dog). It is further demonstrated that they lose their medulla in the ganglia of the lateral chain (sympathetic), some being connected with other ganglia, such as the superior cervical. Dr. Gaskell believes this mode of distribution of the vaso-motor nerves to hold good for all mammals; so that, indeed, the main sympathetic chain of ganglia might with perfect justice be called the 'chain of vaso-motor ganglia.' This is, however, not the whole question, since vaso-motor nerves have been stated to exist in the trigeminal, vagus, nervi erigentes, and the great auricular nerve of the rabbit; but the existence of such nerves rests, as Gaskell shows, on somewhat doubtful evidence. Until, however, the question has been carefully reinvestigated, it is premature to say that no such nerves exist; and this reinvestigation must take place before such a generalisation as Dr. Gaskell's, that the vaso-motor nerves leave the central nervous system only in the thoracic region, can be accepted.

The investigations of the viscero-motor nerves, as well as the remarks on them, are exceedingly interesting. The conclusion which is arrived at may best be given in Gaskell's own words. 'The viscero-motor nerves, on which the peristaltic contraction of the thoracic portion of the œsophagus, stomach, and intestines depends, leave the central nervous system in the outflow of fine medullated visceral nerves, which occurs in the upper part of the cervical region, and pass by way of the rami viscerales of the accessory and vagus nerves to the ganglion trunci vagi, where they become non-medullated.' These results were obtained by a study of the effect of stimulation of the vagus trunk before and after degeneration of the nerve following section.

Gaskell confirms the observations of Fellner that, in the dog, stimulation of the pelvic splanchnic nerve causes a pulling down of the rectum—*i.e.* a contraction of the longitudinal fibres, whereas stimulation of the hypogastric nerve causes peristaltic action—*i.e.* a contraction of the circular fibres. The mode of innervation of the uterus and bladder is similar to that of the rectum. The vaso-inhibitory nerves (vaso-dilator, cardio-inhibitory), it is shown, leave the central nervous system as fine medullated fibres, and, like the viscero-inhibitory nerves, pass into the distal, without communicating with the proximal ganglia.

An interesting development of the theory of generalisation, which is the fundamental idea of Dr. Gaskell's work, concerns the action of the iris-muscles. Grunhagen has asserted, from his anatomical and experimental researches, that no musculus dilator pupillæ exists. He has shown, for example, that direct stimulation of the suspended sphincter causes an elongation of the muscle—a result similar to that obtained by Gaskell in the auricle of the frog, tortoise, and crocodile, and in the ventricle of the frog, in which cases it is concluded that the elongation occurs from stimulation of the inhibitory nerve-fibres supplying the muscle. This explanation is applied to the behaviour of the iris, and is confirmed by the fact that the dilator nerves of the pupil correspond anatomically and histologically with the inhibitory nerves of the circular muscles of the intestines. The conclusion as regards the iris, therefore, is that it is supplied by two sets of nerves—motor and inhibitory; and that dilatation of the pupil is an inhibitory effect.

The remarks made by Gaskell on the nature of the action of motor and inhibitory nerves are very suggestive. The 'motor' nerve here considered differs in some respects from the ordinary motor nerve: thus, in the heart, stimulation of the sympathetic branch (motor nerve) causes acceleration and augmentation of the cardiac beat, followed by exhaustion, *i.e.* a primary increase of the 'functional activity of an already active muscle.' Also, in the frog, if the heart have spontaneously stopped, stimulation of the motor nerves sets the heart beating. Since increase of functional activity means increase of tissue-change (destruction of tissue), Dr. Gaskell would propose for these nerves the name *catabolic.* As regards the other kind of cardiac nerves, the inhibitory fibres of the vagus, Gaskell has concluded not only that they do possess a separate existence from the motor nerves, but that they retain their function 'right up to their termination in the cardiac muscular tissue:' a conclusion, indeed, which destroys the belief in the physiological existence of intrinsic cardiac ganglia, at least in cold-blooded animals. From these premises, the question as to the neutral, constructive, or destructive metabolic activity of these nerves is answered by considering that, inasmuch as diminished activity (*i.e.* inhibition) is followed by repair of function (reappearance of the heart-beat), the action is constructive, or, in Gaskell's language, *anabolic.* It is evident that such a theory of visceral nerve-action (catabolism, anabolism) would, if proved general, be a distinct advance in knowledge: future researches into the action of other nerves than the cardiac, and into the thermal, electrical, and chemical changes occurring in anabolism and catabolism are, however, necessary.

Into the morphological points discussed at the end of the paper, there is no space here to enter. In conclusion, it may be said that Dr. Gaskell has contributed an important addition to our knowledge of this most obscure region of physiology, and that the facts he has brought forward will serve as a good basis for future research.

SIDNEY MARTIN, M.D.

ARTICLE 5641.

PATON ON THE RELATIONSHIP OF THE FORMATION OF UREA AND URIC ACID TO THE SECRETION OF BILE.

IN the *Brit. Med. Jour.*, February 1886, pp. 377 and 433, is given an abstract of a report by Dr. Noel Paton to the Scientific Grants Committee of the British Medical Association, on the relationship of the liver to the elimination of the effete nitrogenous matters of the animal body.

It has been shown by Minkowski that in birds uric acid takes the place of urea, and that the liver produces the uric acid. There is ample proof that urea is not produced anywhere else but in the liver. Few are now inclined to believe in the formation of urea by muscle; and it may be concluded with almost a certainty that the blood only gains urea by passing through the liver, and not by any other means.

The author confines his paper, however, to the relationship of the production of urea with the secretion of bile. Many well-known physiological facts strongly indicate such a relationship. 1. In the starving animal the excretion of urea and of bile falls, but persists in small amounts to the last days of life. 2. After a meal both urea-secretion and bile-secretion rise, and reach their maximum some hours after food is taken. 3. Proteids in diet cause a marked increase in the secretion of urea and of bile, whilst fats have no stimulating effect upon either process.

Dr. Paton has studied the influence of drugs upon the excretion of urea in dogs in a state of nitrogenous balance, which powerfully stimulate the secretion of bile. For this purpose he has selected the following—salicylate of soda, benzoate of soda, colchicum, perchloride of mercury, euonymin; and the changes produced on the excretion of uric acid under their administration have been carefully noted. At first the experiments were made on men, but this method was soon abandoned, and the observations were repeated on dogs. The animals were fed upon oatmeal-porridge and milk. On this diet the urine was large in amount, and of low specific gravity.

The results obtained from the experiments with salicylate of soda were these. 1. The urea was very markedly increased, though the quantity of water was diminished. 2. The uric acid was very much diminished. This throws very direct light on the use of this drug in gout.

Most elaborate tables and diagrams are given showing the percentage of change, and average daily excretion of various constituents under the several drugs, and also the relationship of the formation of urea to the secretion of bile. Benzoate of soda diminishes the excretion of uric acid. In medium doses, colchicum increases the excretion of water and urea to a moderate amount, and the excretion of uric acid to a much greater extent. Both perchloride of mercury and the iodide of mercury cause a distinct rise in the excretion of water, urea, and uric acid. Euonymin, in doses of from four to ten centigrammes per kilogramme, causes a slight increase in the water excreted, and a very marked increase in the urea and uric acid. In larger doses, sixteen centigrammes per kilogramme, it causes purging, with no diminution of the water passed by the kidneys, but without the marked rise in the urea excreted. From his experiments on dogs in a condition of nitrogenous balance, the author learns that stimulation of the flow of bile, by means of the above-mentioned drugs, is accompanied by an increase in the production of urea, and not merely by an increased excretion.

RICHARD NEALE, M.D.

ARTICLE 5642.

ABADIE ON PROFUSE HÆMORRHAGE INTO THE FUNDUS OCULI IN YOUNG SUBJECTS.

DR. ABADIE (*Annales d'Oculist.*, 1886, p. 36) says that the cases of retinal hæmorrhage which are most commonly met with depend usually either upon arterial sclerosis, valvular disease of the heart, renal disease, or local interference with the intra-ocular circulation, as in glaucoma. Such hæmorrhages may be numerous and extensive, but they are generally included within the thickness of the retina, being most often situated in the fibre layer.

The cases to which the writer refers differ from these, in the facts that they occur in subjects who are below middle life, that they do not depend upon any of the causes above mentioned, and that they are profuse at their onset, rapidly invading the deeper layer of the vitreous body, and rendering ophthalmoscopic examination impossible.

The loss of vision comes on *rapidly*, but never *suddenly*; sometimes between morning and evening it may be reduced to mere perception of light, but usually it takes a day or two to reach this condition.

These hæmorrhages set up no inflammatory symptoms whatever, nor is the intra-ocular tension altered. The affection of sight is proportionate to the position and extent of the hæmorrhage, and even at an advanced period there is qualitative perception of light over the whole equatorial region.

Usually, when the patient presents himself, it is impossible to illuminate the fundus, except in the equatorial region, when the pupil is dilated; but in one case the writer was able to see one of the earlier hæmorrhages actually taking place. Fine streaks of blood were seen coursing along the walls of the retinal vessels, and then spreading out to form a layer of blood; at the same time, large patches of hæmorrhage appeared in the equatorial region. The vitreous humour quickly became turbid, especially towards the posterior pole. At first this was due to the presence of isolated floating filaments and membranes, but these rapidly became thicker and more numerous, forming a dark, diffuse cloud, through which it was impossible to illuminate the deeper parts with the ordinary light; with the electric light, however, some hæmorrhages could be seen in the form of red bands, coming from the optic disc, and spreading out into the deep layers of the vitreous body.

Case I.—A man, aged 26, early in 1884, began to have epistaxis two or three times a day; he had previously suffered from this, but not so frequently, and his father was also subject to it. In March, the vision of both eyes rapidly became impaired. In July the vision of the right eye was suddenly completely extinguished, and in December the sight of the left was similarly lost. In February 1885, treatment by pilocarpine injections was commenced, and continued for three months, without there being any improvement. He was then seen by Dr. Abadie. In both eyes the vitreous humour was dark, especially towards the posterior pole, and no details of the fundus could be seen. When the pupil was dilated the fundus-reflex from the equatorial region was almost normal, except below. The visual fields, tested with a candle in the dark, were almost normal, and there were no scotomata, but projection upwards was less accurate than elsewhere. In the right eye there was quantitative perception of light; in the left eye there was qualitative perception of light over the whole visual field, except in the centre. In the peripheral parts of the visual field, fingers could be counted at 20 to 40 centimètres. He was treated with ergotine, quinquinine, and iron. The right eye underwent no change. In ten days the media in the left eye were clearer. In two months he could find his way about. In five months he could read newspaper type. The optic disc could be seen, and whitish tremulous membranes in the vitreous body, looking like partial detachments of the retina; but there were no gaps in the visual field.

Case II. was that of a youth, aged 16. His mother had had albuminuria five years; his father had been subject to epistaxis all his life. His parents were cousins-german. The patient was the only survivor of five, three having died in infancy, and one later, of phthisis. On August 23 he noticed, on rising, a cloud before his eyes, chiefly the right. Next day he was almost blind. In two or three days the left eye cleared, while the right could hardly see a candle. On Sept. 22, he was seen by Dr. Abadie. The right eye had quantitative perception of light; the pupil was dilated; the vitreous humour was occupied by a dark mass. There was good reflex in the equatorial region. The visual field was normal. Behind the lens was a red filamentous mass. The left eye was normal, with the exception of a few hæmorrhagic striæ along the vessels. Vision was normal. He was treated with ergotine. On Oct. 9, there was obscuration of the left eye. On the 10th there were large black flocculi in the left vitreous humour. The optic disc was indistinct, some of its vessels were ruptured, giving rise to fusiform hæmorrhages of dark red colour. Towards the equator, where the vitreous humour was clear, were other isolated hæmorrhages. Tension was normal; vision one-fourth. In the right eye the appearances were as before; fingers could be seen at 30 centimètres. The treatment was as in Case I. On Oct. 20, vision with the left eye was one-half. The optic disc was nearly clear; the hæmorrhages were, to a certain extent, absorbed. The blood was examined: its colour was almost normal, and there was no alteration in the hæmoglobin. There was a marked diminution in the proportion of red corpuscles—2,600,000 red to 6,000 white in a cubic millimètre.

These cases appear to be strictly analogous to those in the series published by Eales (*Birmingham Med. Review*, 1880, p. 265). Four of these five cases were lads, the fifth being a man aged 29. All suffered from epistaxis, and in all there were extensive opacities in the vitreous body.

W. Adams Frost.

Article 5643.

STERN ON THE EFFECT OF LANOLINE IN SKIN-DISEASE.

In the following remarks are embodied the results of observations made by Dr. E. Stern, of Neustadt, in Dr. Behrend's Hospital for Skin-Disease in Berlin (*Deutsche Med. Wochensch.*, No. 15, 1886).

An initial difficulty in the application of lanoline is its viscous consistency, which renders it difficult to bring it in its pure state into such intimate contact with the surface of the skin as is imperatively necessary to the healing of skin-diseases. It certainly possesses a high degree of affinity for the epidermis, as is proved by the fact that, when once rubbed in, it is not only completely absorbed, but continues to have an effect long after other fats have lost their influence. But this holds good only in cases such as psoriasis and seborrhœa sicca capitis, where thorough inunction is possible; whilst in eczema and diseases involving a defect of the cuticle it fails. In the latter cases it has to be applied in a different form, glycerine being at first used, and later, with better results, oil and fat, to facilitate the application. In this form it is a soft easily spread substance that is soon absorbed, while considerable use of soap cannot remove it.

Many salves that have been prepared with lanoline have been tried at the hospital. Diachylon salve with lanoline (℞ emplastri plumbi, lanolini, āā. 50 0; adipis, 10·0) has been used for eczema, and is found to be very useful, the skin forming very quickly without any signs of irritation. Though lanoline is used only as a vehicle, yet as such it is of importance in skin-diseases, particularly in eczema. Dr. Behrend lays great stress in his lectures on the different effects of different vehicles. Animal and vegetable fats, as used in ointments, are quickly absorbed. Vaseline is partially absorbed, but has produced violent eczema in some cases, not only on the parts where it has been applied, but around. It is never used in the preparation of ointments in the hospital, but lard.

The officinal paraffin ointment is not absorbed at all, but lies like a piece of pasteboard on the skin, and thus it is perfectly useless. Not much better are those pastes (used particularly in eczema) prepared with various kinds of fat, though containing substances whose curative properties no one questions. They fail because the fat is nearly all held in the paste, and only a minute quantity of it comes into contact with the skin. What is required is an ointment that is not too quickly absorbed, and that attaches itself for some time to the surface of the skin. The officinal diachylon ointment very perfectly answers these requirements, particularly when prepared with lanoline. A portion of the substance enters into the skin, keeping it soft and elastic, whilst the remainder lies on the surface. As it does not disappear from the surface for several days, inunction needs to be performed less frequently, a great advantage in certain cases. Thus several cases of eczema in the hand were quickly cured by the application of a lanoline bandage that was changed every three days. For seborrhœa capitis, two preparations were used: a cream, containing spermaceti, olive-oil, lanoline, and water: and a pomade of lanoline, cacao-butter, lard, and tincture of benzoin.

So far, the result has been a considerable and rapid amelioration of psoriasis. There are two theories with regard to the nature of this disease, some dermatologists asserting that psoriasis is due to the drying in of the sebum cutaneum, while others (Auspitz and Robinson) ascribe it to anomalies in the formation of the cuticle. Accepting the latter view, we might explain the effect of lanoline by assuming that the fat of lanoline enters the epidermis, which, in its dry condition, is inclined to desquamation, and restores it to a normal condition. In support of this, a case of psoriasis capitis is adduced, in which there was unquestionably such an anomaly in formation of cuticle, and which yielded to inunction of lanoline cream, continued for a week. The redness decreased quickly, and hæmorrhage soon ceased. The patient, however, was still under treatment. In the hospital, Wilkinson's ointment is mostly used for scabies, balsam of Peru being too expensive. In several cases the following modification of Wilkinson's ointment was used: Flor. sulph., picis liquid., āā., 8 partes; lanolini, sapon. vir., āā., 16; pumicis pulv., 5 partes. This preparation effected a saving of half the time, as compared with the original Wilkinson's ointment. Another advantage of lanoline is, that it absorbs water to the extent of 100 per cent. of its own volume, and is thus particularly adapted for cooling salves. And further, in some few cases in which glycerine is inadmissible, lanoline is the only other substance possible. Jaffé and Darmstädter's lanoline was used in the hospital.

JOHN ELLIOTT.

ARTICLE 5644.

SUTTON ON THE DUCT OF GARTNER.*

THROUGH the examination of the generative organs of seventy cows, Mr. J. Bland Sutton has been able to throw more light on the relations of the duct of Gartner to certain cysts of the broad ligaments and upper part of the vagina. In *Bos*, the ducts are unusually well developed. In young subjects, the ducts appear as pale streaks on the ventral wall of the uterus, immediately beneath the peritoneum. In the greater number of the specimens, they become gradually incorporated with the tissue of the cervix, their lumen ultimately suffering obliteration at this point. In a few cases, the ducts open on the mucous surface of the vagina, midway between the os uteri and the meatus urinarius. Anteriorly, each duct is continuous with the longitudinal tube of the parovarium. In older cows, the duct is completely or partially obliterated. The persistent portions of the duct, however, tend to dilate, especially at the cervix and vagina, forming a cyst sometimes as large as an orange, and bulging into the vagina. Evidences of chronic inflammation of the ducts are to be found in multiparous cows.

The relation of Max Schüller's glands † and their efferent canals, Skene's tubes,* to Gartner's ducts has been carefully worked out by Mr. Sutton. This question, and the different opinions on the true termination of the ducts, as noted by practical anatomists, were recently discussed in this periodical ('Fischel on the Duct of Gartner,' LONDON MEDICAL RECORD, vol. xiii., 1885, p. 88). The presence of a pair of tubes in the walls of the female urethra is an established fact. Some have insisted on the identity of these tubes with Gartner's ducts. According to these observers, the middle part of the ducts between the broad ligament and the urethra is invariably obliterated, the upper part in the broad ligament being sometimes, and the urethral or lower portion invariably, patent. Others declare that the ducts are lost in or near the cervix uteri, Skene's tubes being the outlets of a pair of glands lying in the walls of the urethra. Mr. Sutton has found that in heifers a small diverticulum arises from the end of Gartner's duct, and lies in the wall of the vagina. The duct often becomes obsolete above the glandular diverticulum. Under such conditions a probe passed into the orifice of the duct would lead into the gland, but could not pass further into the obstructed duct. This would lead to a fallacious idea that the urethral gland was independent of Gartner's duct.

Gartner's ducts are generally admitted to be the homologues of the vasa deferentia, and the vesiculæ seminales are diverticula of the vasa, close to their termination on the floor of the urethra. It follows that the urethral glands of the female are the homologues of the vesiculæ seminales. If homology be of any value at all, and it is accepted as of high value by comparative anatomists, especially as far as Müller's tubes and Gartner's ducts are concerned, it is clear that in woman, as in *Bos*, Skene's tubes represent the termination of Gartner's ducts. The glands with which Skene's tubes are connected are the homologues of the vesiculæ seminales in man. Perhaps some would go further, and contend that the saccular dilatations of the urethra, of Santesson (LONDON MEDICAL RECORD, vol. xiii., 1885, p. 93) and Lawson Tait (*Ibid.*, p. 279), are simply cystic dilatations of Skene's tubes, which have acquired communications with the channel of the urethra.

ALBAN DORAN.

SURGERY.

RECENT PAPERS.

5645. MORISON.—A Case of Suprapubic Lithotomy. (*Brit. Med. Jour.*, May, p. 817.)

5646. PAGET, STEPHEN.—Secondary Inflammation of the Parotid. (*Lancet*, April, p. 732.)

5647. LITTLEWOOD.—Punctured Wound of the Buttock followed by Traumatic Aneurysm. (*Lancet*, March, p. 590.)

5648. NAPIER.—A Case of Intercurrent Hepatitis and Retained Gall-stones. (*Brit. Med. Jour.*, May, p. 872.)

5649. FRANCIS.—A Simple Method of Artificial Respiration. (*Brit. Med. Jour.*, March, p. 540.)

5650. ELDER.—A Case of Irreducible Inguinal Hernia treated by Elastic Pressure. (*Brit. Med. Jour.*, May, p. 873.)

5651. WEDENSKY.—Calculus in Women. (*Vratsch*, No. 2, 1886.)

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* *Journal of Anatomy and Physiology*, vol. xx., April 1886.

† *Ein Beiträge zur Anatomie der Weiblichen Harnröhre*, Berlin, 1883.

* Glands of the Female Urethra (*American Journal of Obstetrics*, vol. xiii.).

5652. SONNENBURG.—Extirpation of a Popliteal Aneurysm. (*Deutsche Med. Wochensch.*, No. 5, 1886.)

5653. BÖING.—Treatment of Telangeiectasis with Collodion Solution of Corrosive Sublimate. (*Deutsche Med. Wochensch.*, No. 17, 1886.)

5654. MARTINEZ, L.—Ulcerated Epithelioma. (*El Genio Med. Quirurgico*, April 7, 1886).

5655. DEMONS.—On Drainage of the Bladder after Hypogastric Lithotomy.

ART. 5645. *Morison on Suprapubic Lithotomy.*—In the *Brit. Med. Jour.*, May 1886, p. 817, Dr. Rutherford Morison records the notes of a case in which he removed three uric acid calculi from a patient; the largest of which weighed nearly one pound seven ounces. The patient was a sailor, aged 52. For the last thirty years he had complained of pain and difficulty in micturition. He had been frequently sounded for stone, but without result. On examining the patient under chloroform, it was found that a catheter when passed struck against a calculus in the prostatic part of the urethra. A staff was then introduced, and passed beyond the prostatic calculus into the bladder, where another stone was detected. The author then decided to perform lateral lithotomy. The incision was made, and on entering the urethra, a stone was encountered which was easily removed with the finger. On exploring the bladder, a large stone was detected, but it was found impossible to remove it through the perineal wound. It was then decided to perform suprapubic lithotomy. This was done, and the bladder easily opened, but the stone could not be grasped by the lithotomy forceps, and it was only by a pair of midwifery-forceps that the stone was safely seized and removed, It was then found that a small flat stone was lying in the floor of the bladder. The wound was stitched up, and the patient got on wonderfully well for about two weeks, when he became somewhat depressed, and was troubled with constant hiccough. The tongue became dry and the pulse rapid, but the temperature remained normal. Next day he became delirious, and died early in the morning. No *post mortem* examination was allowed, but the author has no doubt that death was caused by diseased kidneys.

5646. *Paget on Secondary Inflammation of the Parotid.*—In the *Lancet*, April 1886, p. 732, Mr. Stephen Paget brings forward sixty cases of parotitis of secondary origin; the primary lesion being in the abdomen or pelvis. Most of the patients recovered, and in many the absence of all signs of pyæmia or septicæmia was especially noted. From these cases the author concludes—1, that the parotid gland is related to the peritoneum; 2, that it is also related to the generative organs; 3, that an abdominal or pelvic lesion may be followed by parotitis without pyæmia; 4, that such a parotitis, if it occur late and with healthy kidneys, is usually followed by recovery. Among the cases noted, the parotitis followed the use of a catheter, or sound, in four instances. Several cases followed delivery, or induced abortion, and peritonitis, either from injury or from perforation. After operations, such as gastrostomy, enterostomy, and especially after ovariotomy, the occurrence of parotitis is not at all unusual. In cases of pelvic cellulitis, and pelvic abscess, and in operations on the cervix uteri, it must be always kept in mind that parotitis sometimes occurs. One case is reported of a lady who had enlargement of the parotid during six successive pregnancies; and one case of amenorrhœa is also mentioned in which the patient had parotitis at the menstrual periods.

5647. *Littlewood on a Case of Punctured Wound of the Buttock, followed by Traumatic Aneurysm.*—In the *Lancet*, March 1886, p. 590, Mr. Littlewood contributes the following case. A boy, aged 15, was 'playing' in school; to avoid a blow from one boy, he stepped back against another boy, who was sharpening a pencil, and received a wound from the blade of a knife in his buttock. A great quantity of blood was lost, and the boy was taken to the hospital. On examination, a small wound was found in the buttock, its long axis lying across the position of Nélaton's line, posterior to the great trochanter. No blood was issuing from the wound; a pad was therefore applied, and he was put to bed. Next day the wound was almost healed, but there was some swelling and hardness in the situation of it. Three days later, pulsation was noticed, and next day there was a large, hard, ill-defined swelling, of the size of a cocoa-nut, occupying the centre of the left buttock. It pulsated distinctly, and an operation was decided upon. A short incision was made through the skin and fat over the most prominent part of the tumour down to the gluteus maximus, which was seen to pulsate. An incision was then made through the muscle, and a rush of blood followed. An attempt to find the proximal end of the artery failed, and the wound was rapidly enlarged upwards and downwards to the extent of six inches. The contents of the sac were then turned out, but the patient lost an enormous amount of blood. The abdominal tourniquet was then applied, and the distal end of the vessel was then tied without any trouble, but it was some time before the proximal end could be found and ligatured. The wound being dressed with carbolic gauze, the patient was put back to bed. The healing process was very slow, but eventually perfect recovery followed.

5648. *Napier on a Case of Intercurrent Hepatitis and Retained Gall-stones.*—In the *Brit. Med. Jour.*, May 1886, p. 872, Dr. Alex. Napier records the case of a lady, aged 43, who had suffered for six years from occasional bilious attacks. In June 1884, there were well-marked symptoms of hepatitis. Health then continued tolerably good, excepting occasional bilious attacks, until May 1885, when another slight attack of hepatitis occurred. In August 1885, the patient was hit by a tennis-ball in the pit of the stomach, causing, at the time, intense agony. From this date there was a constant dull heavy pain in the hepatic region, with entire loss of appetite and progressive debility. In September the suffering suddenly became very acute, causing vomiting for three days, and was followed by marked jaundice; this lasted six weeks, when she improved a great deal in general condition, but in November there was a sudden attack of severe pain in the hepatic region. It was during this attack that she was first seen by Dr. Napier, who diagnosed gall-stone colic. Relief was afforded by subcutaneous injections of morphia. The pain was not so severe after the first day, but the liver continued tender to pressure, and there was incessant vomiting for some days, when it suddenly ceased, and the pulse rose to 120, and the temperature to 101° F., for many days in succession; jaundice was marked, and over the region of the gall-bladder a well-defined rounded mass could be felt, without any evidence of fluctuation in the tumour. For some time the patient improved, but attacks of pain and vomiting became more frequent, and at times she was only supported by means of nutrient enemata. In January 1886 Professor George Buchanan, in consultation, decided that no time should be lost in opening the tumour. On Jan. 30 the patient was placed under ether, and Professor Buchanan, after cutting through the skin, fascia, and muscular walls of the abdomen, encountered a dense white membrane, evidently the bond of union between the gall-bladder and the abdominal wall; beneath was a cavity, from which some dark brown purulent fluid escaped. The finger was then introduced, and a number of smooth gall-stones were removed. The opening into the cystic duct could not be found. The cavity was then washed out with tepid water, a drainage-tube was introduced, and the wound dressed with absorbent gauze. The patient obtained almost immediate relief from all her symptoms, and made a rapid recovery. About three months afterwards, two gall-stones came away from the wound.

5649. *Francis on a Simple Method of Artificial Respiration.*—In the *Brit. Med. Jour.*, March 1886, p. 540, Mr. J. A. Francis describes a simple method of artificial respiration which, he alleges, combines all the advantages of the Marshall Hall, Sylvester, and Howard methods, without any of their disadvantages. The plan is as follows. The body of the patient is laid on the back, with clothes loosened, and the mouth and nose wiped; two bystanders pass their right hands under the body at the level of the waist, and grasp each other's hands, then raise the body until the tips of the fingers and the toes of the subject alone touch the ground; count fifteen rapidly; then lower the body flat to the ground, and press the elbows to the side hard; count fifteen again; then raise the body again for the same length of time; and so on, alternately raising and lowering. The head, arms, and legs are to be allowed to dangle down quite freely when the body is raised. The author alleges that this method is most successful, and it is so simple that anyone can perform it without any teaching.

5650. *Elder on a Case of Irreducible Inguinal Hernia treated by Elastic Pressure.*—In the *Brit. Med. Jour.*, May 1886, p. 873, Mr. William Elder describes a case of irreducible inguinal hernia, which was treated by Professor Chiene and the author by means of elastic pressure. The patient was a man, aged 56, who had suffered from a small hernia for thirty years, but it had only given him trouble during the last few months. On June 30, 1885, the hernia came down, and he was unable to reduce it; and for this reason he consulted Professor Chiene. The swelling was found to consist partly of bowel, and partly of omentum. The omentum was much indurated, and it was found impossible to reduce it, though the bowel was reduced. The patient was then put to bed and kept absolutely quiet, whilst ice was applied to the part. Next day, an attempt was made to reduce the hernia under chloroform, but without success; and the day following elastic pressure was applied by means of a padding of salicylic wool and an elastic bandage in form of a single spica. This pressure was kept up for about a week, and the hernia was very much smaller and softer; but the bandage slipped off one night, and next morning the hernia had increased in size considerably. The bandage and pad were reapplied, but in the form of a double instead of a single spica, and in a few days the hernia had completely disappeared. A truss was then fitted, and the patient soon regained his health, without suffering from any return of the rupture. RICHARD NEALE, M.D.

5651. *Wedensky on Calculus in Women.* — Dr. Wedensky has collected some valuable statistics on this disease. He notes that Hugenberger, after searching 40,000 women for various diseases, did not find a single case of stone amongst that vast multitude. Winckel found but one case in 10,000. Out of 2,500 female subjects dissected in Dresden, vesical calculi were only found in 6. In 980 operations for stone, performed by Sir Henry Thompson, 13 were on female cases. Moscow is in the centre of a region where stone is very frequent. Between 1808 and 1841, Professor Bassoff collected 2,893 cases of vesical calculus from that region, and only 75 were in females. Between 1822 and 1860 Klin, in the Moscow Clinical Hospital, treated 1,792 cases, only 4 occurring in women. Mamonoff noted 25 female cases out of 700. Wedensky, searching the registrar's reports of the Moscow Marien Hospital, from 1867 to 1885, noted 980 cases of calculus; 27 of these were in women. Thus only about 2 per cent. of the total number of cases of vesical calculus, in large series, occur in the female sex. In Wedensky's own experience he had 29 cases. Of these, 3 were treated by dilatation of the urethra, all with success; 13 by lithotripsy, with 2 deaths; 3 by vesico-vaginal section, with 1 death; and 10 by lateral section, with 3 deaths. For small stones, he prefers gradual dilatation of the urethra by Simon's instrument; for larger calculi he finds that lithotripsy answers best, and next to that operation suprapubic lithotomy appears most advisable. Lateral section he now entirely rejects, because it leaves a troublesome permanent scar, and the vesico-vaginal operation frequently establishes a fistula. [A good statistical paper on stone in female children, by Mr. Walsham, will be found in the *St. Bartholomew's Hospital Reports*, vol. xi.—*Rep.*]

ALBAN DORAN.

5652. *Sonnenburg on Extirpation of a Popliteal Aneurysm.*— In the *Deutsche Med. Wochensch.*, No. 5, 1886, Dr. Sonnenburg describes a case of popliteal aneurysm in a man, aged 24, which was treated by extirpation. The arteries were already in an advanced stage of atheromatous degeneration. Six weeks previously, the man had suddenly noticed in the popliteal space a swelling, which was now of the size of an apple, and pulsated violently. Digital compression was not practicable, and ligature of the femoral artery appeared to offer few chances. Extirpation was therefore decided on. The sac was closely adherent to the vein and surrounding parts, and could not be separated; but an adhesion to the capsule of the joint was broken through. A portion of the artery, nearly six inches in length, was removed; and the upper and lower ends of the vessel doubly ligatured with silk, on account of the strongly calcified condition of the arterial tube. Disinfection with iodoform and bandaging concluded the operation. On the patient awaking from narcotism, directly after the operation, his foot was cold and without feeling. In an hour, however, there were signs of restored circulation. The wound healed well, and there was no fever; but in the next few days gangrenous spots appeared on the sole of the foot, remaining for about half a year, after which the man was discharged cured. Dr. Sonnenburg points out that such an aneurysm may, on account of its close union with the vein, easily assume the character of an arterio-venous aneurysm. Dr. Sonnenburg ascribes his success in the first instance to the fact that he was able to preserve the veins. The greatest danger in this method is subsequent gangrene. This danger he considers to be greater in ligation of the femoral artery than in that of the popliteal. He attributes the secondary hæmorrhage, sometimes described as occurring, to extensive suppuration resulting from the slow mode of operation and defective treatment of the wound. Functional disturbances through cicatrisation in the knee-joint are also improbable.

5653. *Böing on the Treatment of Telangeiectasis with Collodion Solution of Sublimate.*—Dr. Böing (*Deutsche Med. Wochensch.*, No. 17) has adopted, with good results, the method of treating telangeiectasis recommended some years ago by an Italian surgeon; to paint with a 4 per cent. solution of corrosive sublimate in collodion the swelling itself and two millimètres round it once a day for four consecutive days, until there is a white covering about 1 millimètre in thickness. A delicate boy, 7 months old, had a vascular growth on the back near the shoulder-blade, 15 millimètres long, 11 millimètres at the broadest part, and slightly elevated. This was only twice operated on. In a fortnight the collodion was removed with forceps, a moderately purulent granulating surface being left, without a trace of vascular dilatation. The wound, after having been wiped with boracic cotton, was dusted with boracic starch, covered with the cotton, and bandaged. In another week cicatrisation was complete, leaving a reddish, smooth, and strong cicatrix, level with the skin. In another case, in which a vascular growth, 24 millimètres by 15 millimètres, and 3 millimètres above the skin, was situated over the third dorsal vertebra of a child 9 months old, the operation was at first successful only over three-fourths of the swelling. After allowing time for healing, Dr. Böing first painted the surrounding skin with pure collodion, and then applied the sublimate solution; the result was complete destruction of the growth. Three other cases are given, in one of which the growth was on the edge of the labium pudendi of a girl 6 months old. Though the method was successful in this case, there was much difficulty and pain; and Dr. Böing thinks it would have been better in this case to extirpate with the knife. He considers the advantages of the above method to lie in the facts, that mothers who are averse to the use of the knife do not object to this operation, and that there is no hæmorrhage and very little pain. Cicatrisation is all that can be desired, subsequent contraction being very slight, as compared with that after treatment with nitric acid; and therefore the treatment is valuable for removing marks from the face. Yet he owns that it has still to be proved that it will be successful in cases where the vascular growth is very large. One painting must not follow another, before a white skin has been formed by the evaporation of the ether. By giving first a good coating of pure collodion to the surrounding skin, the operation may with care be rendered absolutely painless.

John Elliott.

5654. *Martinez on Ulcerated Epithelioma of the Right Side of the Upper Lip: Recovery.*—This was a case of ulcerated epithelioma in an old woman aged 74. She had been under treatment in various hospitals without receiving benefit. The ulcer was as large as a florin, surrounded by a hard indurated margin, and extended from the lip to the nasal fossa. Operation was proposed, but postponed. Iodoform and benzoin were ordered in equal parts. The wound was dressed with this twice a day, then covered with cotton-wool and a bandage. After ten or twelve days of this treatment the eschar separated; and healthy granulations began to appear, and before the expiration of two months cicatrisation was complete. G. D'Arcy Adams, M.D.

5655. *Demons on Drainage of the Bladder after Hypogastric Lithotomy.*—At a recent meeting of the Academy of Medicine in Paris, M. Demons read an interesting paper on 'Drainage of the Bladder after Hypogastric Lithotomy.' In this, the high operation, consecutive urinary infiltration forms the great difficulty, to prevent which different methods have been adopted. M. Périer has invented a special drainage-tube, but sometimes urine escapes through it. It is also too large, increases the size of the wound, and keeps it open too long. M. Demons has recently performed suprapubic lithotomy on a man 63 years old, who was greatly debilitated. A calculus measuring 6½ centimètres had to be extracted. He passed along the urethra a firm red India tube 90 centimètres long; one extremity was passed through the bladder and brought out beyond the wound. Both extremities of the tube were in communication with an urinal; holes in the walls of the intravesical portion allowed the urine to flow away, and this, strangely enough, escaped through the inferior extremity of the tube. Through the superior tube antiseptic injections were made. Five days after the operation, the tube originally placed was removed and a smaller one substituted, which, later on, was replaced by a thread fastened to the base of the os pubis. On the tenth day the temperature was normal; there was a very small hypogastric fistula, which quickly closed. On the eleventh day there were no traces of the operation, and the bougie was removed. W. Vignal.

MEDICINE.

RECENT PAPERS.

5656. Eldridge.—A Case of Acute Atrophy of the Liver. (*Transactions of the Sei-i-Kwai.*)

5657. Murray.—The Barometer as a Guide to Health. (*Lancet*, April 1886, p. 761.)

5658. Dacre.—Aspiration of the Aorta. (*Bristol Med.-Chir. Jour.*)

5659. Fayrer.—Puncture of the Nerve-sheath in Sciatica. (*Practitioner*, April 1886.)

5660. Glover.—A Point of Diagnosis in Rötheln. (*Lancet*, April, p. 785.)

5661. Money.—Shoulder-joint Friction and Incipient Phthisis. (*Brit. Med. Jour.*, April, p. 778)

5662. Sturges.—Pneumonia as the Direct Result of External Violence. (*Lancet*, April, p. 780.)

5663. Lecorché.—The Influence of Diabetes on Gestation. (*Brit. Med. Jour.*, May, p. 894.)

5664. Dukes.—Syncope in Adolescents. (*Lancet*, May, p. 899.)

5665. Leichtenstern.—On Ankylostomiasis. (*Deutsche Med. Wochensch.*, No. 12, 1886.)

5656. Freire, D.—The Prophylactic Inoculation of Yellow Fever. (*El Genio Medico-Quirurgico*, March 22, 1886.)

5667. Patron, P.—Purpura Paludica. (*La Cronica Medica*, Lima, November 1885)

Art. 5656. *Eldridge on a Case of Acute Atrophy of the Liver.*—In the *Transactions of the Sei-i-Kwai* (Japan), Dr. Eldridge records the history of a case of acute atrophy of the liver. The patient was an American merchant, aged 50, long resident in China, and a life-long abstainer from alcohol. For the last five years he had undergone much mental strain. He suffered from grave symptoms of an indefinite nature, together with vomiting, jaundice, and extreme weakness. His medical attendant sent him from Shanghai to Yokohama, and, on his arrival at the latter port, he consulted the author, as he had become steadily worse during the voyage. When seen he was deeply jaundiced, and alternated between a state of semi-coma and muttering delirium. There was almost incessant vomiting, and every few minutes small quantities of altered blood were passed by rectum. The urine was very scanty and nearly black. The temperature was 98°; pulse 60, weak and irregular. The patient was moved to the hospital, but rapidly became weaker, and died the same evening completely comatose. At the *post mortem* examination the liver was found to weigh scarcely 2 lbs. (although the patient weighed nearly 200 lbs.). Its surface was of a dark yellow-brown, and its consistence was hard and of a leather-like toughness, whereas in the majority of cases of this disease which have been reported the liver has been found soft and friable. The author, however, remarks that the cases in which this hardness has been noticed have been the most severe, acute, and completely developed instances of the disease.

5657. *Murray on the Barometer as a Guide to Health.*—In the *Lancet*, April 1886, p. 761, Dr. Wm. Murray writes that for many years he has noticed the effect of atmospheric pressure in the causation of cerebral and other hæmorrhages, and convulsions in children; during periods of great electrical disturbances, and sudden and extreme fluctuations of the barometer, these cases are much more common. On March 1, 1880, the author was summoned to two patients who had been seized with cerebral hæmorrhage, within a few seconds of one another. The barometer at the time was standing at 28°·10. Again on April 7, 1886, the barometer sank to 28°·4 in the evening, and remained at that point until the next day. On the evening of the 7th, the author was summoned to a case of convulsions in a child, and to two cases of uterine hæmorrhage, ending in abortion in the early months of pregnancy. On the same evening, in Dundee, three cases of sudden death were reported within a radius of twelve miles. Some observations have lately been made by Dr. Veeder, of New York, on the occurrence of deaths from apoplexy at times when rapid fluctuations of the atmospheric pressure were indicated by the barometer. It is suggested that these cases are due to a difficulty in the adjustment of the volume and rate of the circulation of the blood, to the varying atmospheric pressure upon the surface of the body, thus causing an unusual strain on weakened vessels.

5658. *Dacre on Aspiration of the Aorta.*—In the *Bristol Med.-Chir. Jour.*, Mr. Dacre reports a case of sudden pulmonary congestion relieved by aspiration of the aorta. The patient was *in extremis*, when it was decided to tap the right auricle itself, in order to relieve the venous congestion of the lungs and right side of the heart. Thirty ounces of dark blood were withdrawn, and much relief was experienced. Six hours later, the patient's condition again became serious, and the operation was repeated. Sixteen ounces were drawn off, but although the pulse rose for a few minutes, it again fell rapidly, and the patient died. On *post mortem* examination it was discovered that the needle had passed just above the right auricle, and had punctured the aorta. Mr. Dacre states that if the needle be inserted in the fourth space, and, as soon as the chest is entered, it be passed directly backwards, it will invariably puncture the right auricle and escape the aorta. This operation was devised by Dr. Westbrook as a means of relieving intense pulmonary congestion.

5659. *Fayrer on Puncture of the Nerve-sheath in Sciatica.*—In the *Practitioner*, April 1886, Sir Joseph Fayrer states that he was consulted by a patient of middle age on account of long-standing sciatica. All the usual methods of treatment had failed to give relief. On examining the limb the author detected a feeling of fulness and tenderness in the course of the sciatic nerve near its origin. A long narrow knife was then introduced into the swelling, and about two drachms of clear serous fluid were drawn off, giving almost instant relief from the pain; a rapid recovery followed. The author adds it is possible that the success often following acupuncture with needles in cases of deep-seated pain may sometimes be due to the relief of tension caused by evacuation of fluid which has accumulated as a result of inflammation in large or small nerve-trunks.

5660. *Glover on a Point of Diagnosis in Rötheln.*—In the *Lancet*, April 1886, p. 785, Dr. Glover says he has noticed the earliest symptom to excite notice in cases of rötheln or German measles, is a swollen gland in the neck at the back of the sterno-mastoid muscle. This symptom he has noticed four or five days before the rash appears. When disease is prevalent, or already exists in a family, and a swollen cervical gland in a young person appears, without obvious reason, it may be suspected that the system is already infected.

5661. *Money on Shoulder-joint Friction and Incipient Phthisis.*—In the *Brit. Med. Jour.*, April 1886, p. 778, Dr. Angel Money draws attention to a friction-sound produced in the shoulder-joint by breathing, which often imitates the sound which indicates the commencement of phthisis in the apex of the lung. To diagnose the difference, it is noticeable that the sound produced in the shoulder-joint is loudest over the joint itself, and is more readily conducted along the bones than along the muscles. Again, when the friction-sound is due to the joint, there is no prolongation or increased loudness of the expiration. This friction-sound, simulating pulmonary mischief, was pointed out some time ago by Dr. Gowers, and should be borne in mind by all physicians, especially those who have to sign insurance certificates.

5662. *Sturges on Pneumonia as the Direct Result of External Violence.*—In the *Lancet*, April 1886. p. 780, Dr. Sturges relates the case of a child aged 11, who was hit by another boy on the right side of the chest. He walked home about a mile with some difficulty, feeling much pain, especially on movement. On his arrival he became very sick and feverish, and next day was taken to the hospital. On admission, it was found that there was a patch of pneumonia in the right lung, under the scapula, exactly at the spot where the blow had been dealt. At first sight, the author put this case down as an instance of pneumonia due to external violence, but on carefully questioning the boy's mother it was discovered that the boy had been ailing for some days previously. Three days before the blow he had been out in the snow all day, and got wet through, and the next day he had shivered. From these facts, the author concluded that the pneumonia had already commenced, when he received a blow just over the seat of the disease. Many medical authorities assert that an injury is one of the causes of pneumonia, but none mention a typical example. Dr. Sturges is of opinion that bodily injury may be looked upon as a predisposing, but not as an exciting, cause of pneumonia.

5663. *Lecorché on the Influence of Diabetes on Gestation.*—In the *Brit. Med. Jour.*, May 1886, p. 894, it is stated that Dr. Lecorché has shown that diabetes does not render women sterile. He had six diabetic patients who were delivered of children at full term, but they were all delicate. When diabetic women are sterile, it is due to uterine lesions resulting from diabetes. Diabetes has direct influence on the process of gestation, impairs fœtal nutrition, and is favourable to faulty development, especially hydrocephalus. It often produces dysmenorrhœa and amenorrhœa, and an early menopause often results from an overlooked diabetes. If the sugar disappear, the menses may return.

5664. *Dukes on Syncope in Adolescents.*—In the *Lancet*, May 1886, p. 899, Dr. Clement Dukes calls attention to cases of syncope occurring in adolescents. When these cases present themselves, the author examines the urine, and invariably finds it loaded with albumen. The treatment recommended is the use of hot baths, an aperient, and nitroglycerine with a milk-diet. By these means a cure is rapidly obtained; but, if the heart be considered to be at fault and tonics be given, the patient does not get any benefit from treatment, but rather grows worse. Dr. Dukes has had some experience of such cases, as he is physician to one of our largest public schools. [In all such cases as those described above careful inquiry ought to be made regarding seminal emissions. Vide *Medical Digest*, sect. 1083 : 5.—*Rep.*] RICHARD NEALE, M.D.

5665. *Leichtenstern on Ankylostomiasis.*—In a paper on this subject (*Deutsche Med. Wochensch.*, No. 12, 1886), Dr. Otto Leichtenstern, of Cologne, says that there can be no doubt that there is a causal connection between ankylostomata and severe progressive anæmia. A brickmaker, aged 36, had suffered for six months from severe progressive anæmia, when he was admitted into Dr. Leichtenstern's hospital. Here 1,066 ankylostomata were removed by purgatives, and in about ten weeks he was discharged fit for work. On admission in a dropsical condition his weight was 121 lbs.; on discharge, 133 lbs. At first the blood contained 1,843,750 corpuscles, at last 4,862,500. Another man, aged 43, had worked in a brickfield two years before, and had since been in a miserable anæmic condition. On admission he was in a state of extreme anæmia and cachexy, with anasarca of the lower extremities. There were exudative pleuritis, dry pericarditis, and some fever, but no signs of pulmonary phthisis or of albuminuria. On examination, large numbers of the ova of ankylostomata were found. After discharging 641 ankylostomata the man was perfectly well in about fourteen weeks. At first he weighed 111 lbs., at the end 131 lbs.; the blood-corpuscles increased from 1,875,000 to 4,900,000. This case proves that these parasites may live two years, for he had been in prison during that time. The remarkably recuperative power of the blood is exhibited in this speedy increase of the corpuscles after expulsion of the parasites. JOHN ELLIOTT.

5666. *Freire on Prophylaxis of Yellow Fever.*—In consequence of a violent epidemic of yellow fever in Brazil in the years 1883 and 1884, Dr. Domingos Freire, professor of organic chemistry and biology in the Faculty of Medicine in Rio Janeiro, was commissioned by the government of that country to make a systematic study of the disease, especially as to its origin and contagion, prophylaxis, and treatment. Prior to this, in 1880, Dr. Freire had published his discovery of a special microbe, the constant presence of which throughout the whole organism, and in all the fluids and secretions of the victims of yellow fever, had led him to assert the microbic origin of the disease. In the *Genio Medico-Quirurgico* for March 22, Dr. Ramon Suret gives an interesting account of Freire's preventive inoculations for yellow fever. Freire began his researches by undertaking a series of experiments to demonstrate the contagion of the disease, and the first step was to find what animals could be successfully experimented on. Inoculations made in guinea-pigs and rabbits proved the receptivity of those animals to the poison, while pigeons, monkeys, and dogs were found to be not susceptible. The contagion was also proved to be readily conveyed by inoculations of the blood, urine, and all the fluids of the body, as well as by the filtered products of the muscles and nerves, triturated and mixed with water previously sterilised. Rabbits, inoculated in diverse ways, rapidly contracted yellow fever, some in the fulminating form; and when their blood, urine, &c., was inoculated into others, fatal results were produced, the number of successive inoculations from animal to animal not leading to any modification in the fatal effects of the virus. Microscopic examination of the water and soil during the prevalence of the epidemic showed that these contained the special microbes in immense numbers. Having demonstrated the contagion of yellow fever, and the constant presence of a special microbe in the patients and in their environment, and its proliferation in cultivations (broth, milk, gelatine, water), Freire noticed that two circumstances lead to the attenuation of the xanthogenic virus: change of station, and its transmission to the organisms of refractory animals (fowl, pigeon). When rabbits were inoculated with the blood and other liquids taken from patients during the period of inertia of the epidemic—that is, during the winter (June and July)—it was observed that the animals did not die, but had the disease in a mild form. This virus, naturally attenuated and cultivated, offers, he says, as proved by numerous experiments, a safe and certain vaccine. To measure the intensity of its action and to be certain that the cultivations, without being too energetic and therefore dangerous, yet possessed the qualities necessary to serve for vaccination, Freire inoculated with it animals proved to be receptive—for example, rabbits; and the result was that, instead of the development of grave symptoms and high temperature, the reaction caused was comparatively slight. He afterwards inoculated these same rabbits with non-attenuated virus, and at the same time inoculated with the same virus non-protected rabbits, and the result was that the protected rabbits were only slightly affected, while the non-protected rabbits died rapidly, with all the typical symptoms of yellow fever. During the epidemic Freire inoculated 418 persons, of whom only 7 died; during the same period 650 non-inoculated persons died. Up to October last Freire had inoculated 6,000 persons. Dr. R. Issartier writes that, on passing through Rio Janeiro, he was inoculated by Freire. At twelve o'clock 50 centigrammes of the cultivation were injected into each arm in the deltoid region; at 2.15 his temperature was 37°·5, at 4.10 the same, at 6.45 37°·8, at 8.30 38°·1, and at 9 the same. There were slight excitement, weight on the forehead, and headache. He slept well, and was all right the next day. Freire's statistics show a mortality of 1·6 per cent. among the inoculated, and 13·7 for the non-inoculated. In a letter dated Oct. 6, to Dr. Issartier, Freire says that, while yellow fever has recently caused over 300 deaths among the non-inoculated, there was no death in the 5,000 inoculated.

5667. *Patron on Purpura Paludica.*—C. I., Indian woman, multipara, aged 40, was admitted in a state of profound anæmia, covered with innumerable petechiæ, principally on the trunk and extremities. The spleen and liver were enormously enlarged. She stated that she had tertian ague, and complained of great pain in the hepatic region. On the right side of the face and on the left arm were two large black ecchymoses; they were not painful, however, nor were the parts swollen; they were the consequence of slight contusions. On the day following her admission, a blister was applied to the right hypochondrium, and 1 gramme of sulphate of quinine with 10 centigrammes of extract of aconite in ten pills, one to be taken every two hours, were prescribed. Fever, however, occurred in the afternoon. On the next day, 60 centigrammes of quinine were given in the morning, and the pills were continued; there was no fever. For the next week, 60 centigrammes of quinine with ten drops of vinum opii were given every morning; 20 centigrammes of quinine with 1 centigramme of extract of opium alternately with food, 20 drops of tincture of perchloride of iron. Ten days after the commencement of the treatment, as the small petechiæ had almost disappeared, the 60 centigrammes of quinine in the morning were discontinued, and 15 grammes of quinine wine were ordered instead. In the thirteen days of treatment, she took in all 13 grammes and 70 centigrammes of quinine. In all grave paludic diseases, whether febrile or not, quinine must be and can be given in large doses until the disease yields.

G. D'ARCY ADAMS, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5668. HOLDEN.—The Salicylic Treatment of Glycosuria. (*Brit. Med. Jour.*, May, p. 816.)

5669. ABBOTT.—The Neurotic Treatment of Catarrh. (*Lancet*, March, p. 575.)

5670. DAVIES.—Belladonna Inhalation in Acute Bronchitis. (*Brit. Med. Jour.*, March, p. 542.)

5671. BETZ.—Chloroform as a Hæmostatic.

5672. DEBOUT D'ESTRÉES.—The Common Origin of Diabetes and the Uric Acid Diathesis. (*Lancet*, May, p. 964.)

5673. GÉORGIÉVSKY, J.—Some Clinical Observations on the Action of Kephir. (*Proceedings of the Kiev Medical Society*, 1885, p. 58; and *Vratch*, 1884, p. 366, No. 22, and p. 381, No. 23.)

5674. JANOVSKY, FILARET G.—Observations on the Action of Kairin in Some Infectious Diseases. (*Proceedings of the Kiev Medical Society*, p. 64, 1885.)

5675. CHRISTODORESCU, AL.—On Bryonia Dioica as an Uterine Hæmostatic. (*Spitalul*, March 1886, p. 92.)

5676. KALASHNIKOFF, P. J.—A Report on the Treatment of Syphilitic Soldiers by the Piatigorsk Sulphur Mineral Waters in 1885. (*Proceedings of the Piatigorsk Russian Balneological Society*, March 4, 1886, p. 8.)

5677. SOTCHINSKY.—On Oleum Phosphoratum in Intermittent Fever. (*Vratch*, No. 16, 1886, p. 293.)

5678. LASHKEVITCH, VALERIAN G.—Cucaine in Stenocardia. (*Russkaia Meditzina*, No. 12, 1886, p. 203.)

5679. RIEU.—The Use of Terpine in Chronic Bronchitis. (*Gaz. Méd. de Strasbourg*; and *Bull. Gén. de Thérap.*, April 30.)

5680. COZE.—The Properties of Urethan. (*Bull. Gén. de Thérap.*, April 30.)

5681. MOSLER.—Parenchymatous Injection of Fowler's Arsenical Solution into a Leuchæmic Enlargement of the Spleen. (*Deutsche Med. Wochensch.*, No. 13, 1886.)

5682. IGLESIAS Y DIAZ.—The Treatment of Diphtheria. (*El Siglo Medico*, May 9, 1886.)

5683. DOURADO, A.—Pilocarpine in the Treatment of Adenitis. (*Gazeta Medica de Bahia*; and *El Siglo Medico*, March 28, 1886.)

5684. CARRERAS-ARAGÓ.—Iodol in Affections of the Eye. (*Gaceta Medica Catalaña*; and *El Siglo Medico*, April 4, 1886.)

5685. TROUSSEAU.—On Iodol as an Ocular Therapeutic. (*L'Union Médicale*, March 22, 1886.)

ART. 5668. *Holden on the Salicylic Treatment of Glycosuria.*—In the *Brit. Med. Jour.*, May 1886, p. 816, Dr. Sinclair Holden remarks that the recent researches of Professor Latham on the pathological connection between diabetes and rheumatism has given a fresh impulse with regard to the treatment of these diseases. Two distinct kinds of diabetes are recognised: 1, that which arises from a neurotic disturbance of the function of the liver, so that the glucose passes unchanged through the liver and appears in the urine; 2, that which arises from a neurotic disturbance of the function of muscle, so that glucose is formed in that tissue and passes into the circulation, and then into the urine. This second kind of diabetes is intimately connected with rheumatism; it only requires a degree more or less of oxidation to determine whether the muscular tissue generates an abnormal amount of lactic acid or of glucose in the system. It has been shown by Dr. Latham, that salicylic acid has the power of arresting the formation of both lactic acid and glucose. Dr. Holden contributes notes of six cases of glycosuria occurring in rheumatic patients; all of which were cured by giving salicylic acid. The first and most marked effect of this treatment in the glycosuria of rheumatic patients, is the almost complete removal of the distressing polyuria. The dose of salicylic acid should be from ten to fifteen grains three times a day. In cases of diabetes where no rheumatism exists, no benefit is obtained from taking salicylic acid.

5669. *Abbott on the Treatment of Catarrh by Inhalation of Ammonia.*—In the *Lancet*, March 1886, p. 575, Dr. Abbott states that when catarrh is the result of an exposure to cold or east wind, it can always be limited to the nostrils, and cured in a few hours, by the occasional inhalation of a strong solution of ammonia. The solution inhaled should be as strong as can be tolerated, and should be repeated whenever the watery flux comes on. Dr. Mullins writes that he finds a dose of from 25 to 30 minims of tincture of belladonna, taken promptly at the commencement of a cold, is a sure and certain remedy for catarrh.

5670. *Davies on Belladonna Inhalation in Acute Bronchitis.*—In the *Brit. Med. Jour.*, March 1886, p. 542, Mr. N. E. Davies states that he treated with marked success a case of acute bronchitis with inhalations of belladonna. The patient, a lady, aged 75, was suffering from extreme dyspnœa, and seemed in a critical condition, when the author gave a grain of extract of belladonna in half an ounce of water by means of a Siegel's inhaler. After the patient had inhaled this solution for a few minutes, the breathing became quiet and easy, and before the half ounce was exhausted the patient was asleep. By repeating this remedy every few hours with a stimulating system of treatment by the mouth, the patient made a rapid recovery.

5671. *Betz on Chloroform as a Hæmostatic.*—In two cases of uterine hæmorrhage, Dr. Betz used chloroform locally with great success. A robust woman was delivered by forceps, and after the removal of the placenta fearful hæmorrhage took place, which was rapidly checked, and contraction of the uterus induced, by introducing into the vagina a sponge soaked with chloroform. The second case was that of a delicate woman, aged 23, who miscarried at the fourth month, and after the expulsion of the fœtus suffered from such severe hæmorrhage that no treatment was of any avail until a plug of cotton-wool, soaked in a mixture of chloroform and ether, was inserted into the vagina. Chloroform does not induce coagulation of the blood as other astringents do, but causes narrowing and closure of the blood-vessels in consequence of muscular action.

5672. *Debout d'Estrées on the Common Origin of Diabetes and the Uric Acid Diathesis.*—In the *Lancet*, May 1886, p. 964, Dr. Debout d'Estrées states that he considers diabetes and the uric acid diathesis to have a common origin. The author bases his views on his experiences at Contrexéville for the last eighteen years, and contributes notes of some cases which have lately been under his treatment. One instance was that of a gentleman, aged 56, first seen on July 8, 1885. For three years he had suffered from polyuria and polydipsia. His sight was affected ; there was a loss of power in the lower limbs, and almost complete insomnia. During the six months previous to his visit to Contrexéville he had been under dietetic treatment, and the quantity of urine had been reduced from 4½ to 3 pints during the twenty-four hours, with a fall in the specific gravity from 1045 to 1038. The amount of sugar present per litre was 4·2 per cent. The treatment consisted in drinking from one to two litres of water from the Pavilion spring every day, with the addition in a week of cold douches of short duration. On July 17 the urine had a specific gravity of 1024, and contained 1 per cent. per litre of sugar, while crystals of uric acid were discovered for the first time. The quantity of mineral water consumed daily was then doubled, and on Aug. 3 there was no trace of sugar, but to the naked eye a red deposit was visible, affording evidence of a large excretion of uric acid. The patient was able to walk about eight miles a day, and was entirely free from thirst and insomnia. The author states he could quote numerous cases similar to this one, and insists upon the clinical fact that all the cases of diabetes treated at Contrexéville have shown an increase of uric acid crystals in the urine coinciding with the diminution or disappearance of the sugar. Many cases are seen by the author which show that a low specific gravity does not always imply absence of sugar, nor a high specific gravity prove its presence. One patient had no sugar in the urine when the specific gravity was 1031, but it contained crystals of oxalate of lime. After a fortnight's treatment the specific gravity had dropped to 1015, and crystals of uric acid alone were visible. Another patient had sugar in the urine, amounting to nearly 2 per cent. per litre, when the specific gravity was only 1017. The author is making a special clinical study of the subject of albumen in the urine, and reserves for a future paper his views on the subject.

RICHARD NEALE, M.D.

5673. *Gëorgiëvsky on the Action of Kephīr.*—At a meeting of the Kiev Medical Society, Dr. J. Gëorgiëvsky, of Professor F. F. Mering's clinic, made an interesting communication (*Proceedings of the Kiev Medical Society*, p. 58, 1885, and *Vratch*, Nos. 22 and 23, 1885) of his observations on fifty-eight patients suffering from pulmonary phthisis, pleurisy, hepatic cirrhosis, cardiac disease, dysentery, typhoid fever, &c., to whom he had administered kephïr (*see* the LONDON MEDICAL RECORD, 1884, p. 438, 1885, p. 522, and February 1886, p. 74), from five to seven glassfuls a day. The author's results may be given thus. 1. Kephīr is better borne by patients than common cow's milk or koumiss. [Only two patients refused to drink it on account of dislike, while the remaining fifty-six took it with pleasure. It never gave rise to diarrhœa. On the contrary, it proved an excellent remedy for diarrhœa of all kinds, especially in cases of dysentery, enteric fever, and phthisis.] 2. Kephīr acts as an excellent expectorant (exactly like alkaline mineral water), the sputa becoming more liquid and more easily removable. In this regard, kephīr brings especially valuable services in phthisis. 3. Cardiac patients, however, cannot tolerate kephīr, since the latter increases palpitation and dyspnœa. 4. Kephïr increases secretion of the urine, especially in the beginning of the treatment. The increase, however, is solely dependent upon an increased supply of the system with water [since the degree of diuresis proved identical when the patients drank, instead of their six glasses of kephīr, six glasses of milk or water]. 5. Still, as a means for removing dropsy (after acute nephritis, &c.), kephīr must be placed decidedly higher than milk, since the former acts far more rapidly than the latter, dropsical fluid being absorbed within a few days. The difference seems to find an explanation in an easier assimilability of the proteids of kephïr, with a consequent rapid rise of the endosmotic equivalent of the blood above that of dropsical fluid. 6. The specific gravity of the urine decreases under the influence of kephīr, while the daily amount of solid constituents (urea, chlorides and phosphates) increases. The daily amount of uric acid seems to diminish. 7. The increase of nitrogenous metamorphosis may be attributed to the introduction into the organism of large quantities of proteids and water. 8. The weight of the body increases, and that sometimes very considerably. In febrile patients (with evening exacerbations about 39° C.) the increase varies only between one and two pounds a month. But in chronic cases, with moderate fever or with no fever, the gain oscillates between one and three pounds a week.

5674. *Janovsky on the Action of Kairin in Infectious Diseases.*—Dr. Filaret G. Janovsky describes (*Proceedings of the Kiev Medical Society*, p. 64, 1885) his observations on the action of kairin in ten patients (six with relapsing fever, one with enteric fever, two with croupous pneumonia, and one with tuberculosis) in Professor K. H. Tritschel's clinic, in Kiev. The conclusions drawn from the author's observations are as follows. 1. The decrease of temperature under kairin becomes marked half an hour after a ten-grain dose, but reaches its maximum in the course of the next half an hour. It lasts about one and a quarter or one and a half hour, and then a re-elevation takes place. (Only three times was the re-elevation accompanied by rigors.) 2. The antipyretic effects of one and the same dose may be different. [Sometimes the action of the drug is very energetic; thus, in four patients with recurrent fever, the temperature was lowered from 40° or 40°·5 C. almost to the normal level.] 3. Occasionally, nausea and vomiting follow. [They appeared in three patients with recurrent fever after two scruples to one drachm have been taken.] 4. About half an hour after a ten-grain dose, there almost invariably appears a more or less profuse perspiration. 5. The frequency of the pulse and respiration varies, in general, in accordance with the temperature. 6. The sphygmographic changes were observed only in four patients, and consisted in the disappearance of arhythmia (in a patient with typhoid) and in the transformation of a dicrotic pulse into a subdicrotic or even normal one. Dr. Janovsky never saw any unfavourable action of the drug on the vascular system. He objects to the hypodermic administration of kairin, as recommended by Dr. F. F. Ryndovsky, since the injections bring about ichorous abscesses.

5675. *Christodorescu on Bryony Root as an Uterine Hæmostatic.*—In the *Spitalul*, March 1886, p. 92, Dr. Al. Christodorescu, of Bucharest, details a case of uterine hæmorrhage, which he most successfully treated by the internal administration of a decoction of bryony root, made of 20 grammes of the drug to 1 kilogramme of white wine, after the formula of Professor Z. Petrescu, of Bucharest, who uses the drug in all cases of 'essential [*essentiale*] and symptomatic hæmorrhage.' The patient, a strong and stout married lady, aged 46, who had suffered from eight days' flooding about a year before, was first seen by the author on the seventeenth day of profuse hæmorrhage, which was persisting in spite of the use of various ordinary means, including ergotine. She was pale, and for three last days markedly losing ground. A most careful examination failed to detect any organic lesions in the pelvis. On the eighteenth day Dr. Christodorescu resorted to Petrescu's decoction of bryony (in tablespoonful doses every hour). The bleeding commenced to decrease about 6 hours after the first dose, and ceased altogether in thirty-six hours.

5676. *Kalashnikoff on a Case of Syphilis Cut Short by Sulphur-Baths and Mercurial Inunctions.*—Dr. P. J. Kalashnikoff, of Pïatigorsk, records (*Proceedings of the Pïatigorsk Russian Balneological Society*, March 4, 1886, p. 8) the case of a soldier who was admitted with a characteristic induration on the penis at the site of a recently healed primary ulcer, and with a marked universal adenitis. After ten sulphur-baths, the sclerosis became exulcerated. The ulcer did not yield to local medication. Under the influence of the inunction of grey mercurial ointment (ten frictions of one scruple each, and ten of half-a-drachm), and sulphur-baths (fifty-one), the ulcer rapidly healed, and sclerosis and adenitis disappeared. His skin and mucous membranes remained healthy. Not a single syphilitic symptom made its appearance subsequently (more than six months passed from his cure up to the date).

5677. *Sotchinsky on Phosphorated Oil in Intermittent Fever.*—Having tried a number of substitutes for quinine in the treatment of malarial fever, Dr. Sotchinsky (*Vratch*, No. 16, 1886, p. 293) obtained the best therapeutic results from the use of oleum phosphoratum in the shape of an emulsion (ʒj. to ℥vj., a tablespoonful three times a day). No unpleasant effects were ever observed. The drug is cheap. Tincture of iodine, tincture of eucalyptus globulus, Fowler's solution, cinchonine, and resorcin, never acted so well as phosphorus.

5678. *Lashkevitch on Cucaine in Angina Pectoris.*—In the *Russkaia Meditzina*, No. 12, 1886, p. 203, Professor Valerian G. Lashkevitch, of Kharkov, details four cases of angina pectoris (*grüdnaia jäbä*), in which he obtained most satisfactory results from the internal administration of hydrochlorate of cucaine in doses from one-third to half a grain, three or four times a day. The drug does not cut short the paroxysms, though it somewhat relieves their acuteness. But, after two or three days' use of cucaine, the attacks gradually decrease in their strength and duration, and then disappear altogether. As to the general useful effects, the alkaloid retards the pulse and increases its volume, as well as the quantity of urine. One of the patients, a gentleman, aged 35, suffered from insufficiency of the aortic valves, with cardiac hypertrophy and slight dilatation of the ascending part of the aorta; stenocardiac paroxysms came eight times and more daily for two years. They disappeared after the use of half-grain doses of cucaine three times daily, for three consecutive days. A second patient, a landlord, aged 63, with six months' angina pectoris, had mitral regurgitation, dilatation of the aorta, and intense arterio-sclerosis. A third, a public official (*tchinovnik*), aged 58, had also marked arterio-sclerosis; while the fourth, a book-keeper, aged 40, with eight months' paroxysms, suffered from aortic regurgitation, with dilatation of the ascending part of the aorta. In the last three patients, the attacks ceased to come after two days' taking one-third (in two), or one-half of a grain (in one) of the drug three or five times daily. In conclusion, Professor Lashkevitch states that inhalation of pure oxygen considerably shortens the duration of the paroxysms, and may be most advantageously combined with the internal administration of cucaine. This method solves both of the therapeutic problems in cases of angina pectoris; it shortens the paroxysms, and prevents them. V. IDELSON, M.D.

5679. *Rieu on the Use of Terpine in Chronic Bronchitis.*—According to the author (*Gaz. Méd. de Strasbourg*; and *Bull. Gén. de Thérap.*, April 30), this drug, which has neither smell nor taste, can be given at a dose of from 1 to 3 grammes daily. It diminishes the expectoration in chronic bronchitis, but has hardly any effect in phthisis. Its action is the same as that of turpentine and creasote, but it is less disagreeable to take, and therefore preferable in some cases.

5680. *Coze on the Properties of Urethan.*—The author published in the *Bull. Gén. de Thérap.*, April 30, the result of a series of experiments made with this substance. The watery solution can be injected under the skin of dogs and other animals without causing any inflammation. After a short period of excitement, it produces sleep and complete anæsthesia, with muscular relaxation. The frequency of the pulse and respiration is diminished, and the temperature falls. The action of urethan on animals poisoned by strychnine is very remarkable; under ordinary circumstances, 1·5 milligramme of this alkaloid kills a rabbit weighing 2,500 grammes, but a dose of 5 milligrammes can be injected under the skin without any ill effects when the animal has been put under the influence of 2 or 3 grammes of urethan. The author thinks that this drug might be used advantageously in convulsions, and especially in tetanus. J. KESER, M.D.

5681. *Mosler on Injection of Arsenic in Leuchæmic Spleen.*—Dr. Mosler has abandoned splenotomy in leuchæmia, as the hæmorrhagic diathesis may induce complications, and he has endeavoured to treat enlargements of the spleen by parenchymatous injections. Certain precautions against bad consequences must be taken. The spleen must be firm, and in the closest possible apposition to the abdominal walls; the patient must not show any signs of hæmorrhagic diathesis, nor be in a leuchæmic cachectic state. Long before the operation, such medicines as quinine, piperine, and eucalyptus oil, must be taken to reduce the amount of blood in the organ, by acting on its contractility. Ice-bags must also be applied to the region for several hours before and after injection. Fowler's arsenical solution is the best liquid to be injected. Dr. Mosler has in this way, and with these precautions, successfully treated five cases of chronic enlargement of the spleen. In the case of a man, aged 56, a brickmaker, the pressure of the mould against his left side had affected the left hypochondrium. At first his symptoms had been general lassitude and weakness, and two years later there appeared considerable swelling in the abdomen. Dr. Mosler found that a tumour of the spleen extended forwards to the navel down to the iliac fossa, and upwards to the sixth rib. The blood contained as many white as red corpuscles. For three weeks, the man took three times daily pills of piperine, oil of eucalyptus leaves, hydrochlorate of quinine, white wax, and carbonate of magnesia. Then a syringeful of Fowler's arsenical solution was injected three times a week for seven weeks, the patient continuing to take the pills. There were no bad symptoms, the patient asserting rather that there was less pressure from the swelling. It was demonstrated by palpation that the tumour had receded three fingerbreadths from the navel. The patient had also an ice-bag applied to the spleen for two hours, after having three hours previously taken five of the pills. Dr. Mosler used a syringe with a very fine point in injecting the solution. There was no great pain connected with the operation, after which the place was covered with a carbolised pad, and the ice-bag at once applied. In four months, the man was discharged convalescent. Dr. Mosler concludes by referring to the method of withdrawing blood by means of the syringe for the purposes of examination and diagnosis, in such diseases as typhoid fever, small-pox, scarlatina, measles, and general acute miliary tuberculosis. In typhoid fever, however, he considers the method not only unnecessary, but dangerous. JOHN ELLIOTT.

5682. *Iglesias y Diaz on the Treatment of Diphtheria.*—In a paper read before the Royal Academy of Medicine in Madrid on May 1, 1886 (*El Siglo Medico*, May 9, 1886), Dr. Manuel Iglesias y Diaz gives the treatment employed by him in diphtheria. He first recommends ipecacuanha in emetic doses, to be repeated several times daily so as to obtain its sedative and antiphlogistic effect, and thus to modify the local manifestations in the respiratory apparatus manifested by hoarseness and aphonia, cough, and paroxysms of dyspnœa. At the same time, he gives stimulant and analeptic tonics, preferring quinine and its preparations, wine, coffee, tea, beef-tea, and milk. As topical or local agents he uses only emollient decoctions (marsh-mallow, &c.) alone, or with milk and some astringent solution, as borax. Externally he applies mercurial ointment, mixed with belladonna and emollient poultices. Bleeding and leeches are proscribed as prejudicial, as are all direct antiphlogistics. He does not employ preparations of iron, since their action is slow in ordinary doses; and in larger doses, as of the perchloride much recommended by many physicians, they act as irritants of the stomach and digestive apparatus, impeding the digestive processes, and thus leading to increase of the depression characteristic of the disease. Neither has he found any benefit from the various alteratives often prescribed, such as bromine and the bromides or chlorate of potash. Caustics and energetic astringents applied to the fauces do more harm than good, to say nothing of the difficulty of applying them in children, who form the majority of the patients. He uses instead emollient anodyne, and sometimes slightly astringent gargles, and does not insist on these if the children resist, since he considers diphtheria to be a general infectious disease, profoundly affecting the blood, the circulatory apparatus, and the nervous system; and even if the diphtheritic eruptions be removed by local applications, this can have little or no influence on the course of the disease, while the most important manifestations are those situated in the larynx, bronchi, and pulmonary cellules, and these cannot be reached by caustics, &c. His experience of tracheotomy does not lead him to recommend it, even in the few cases in which the disease appears limited to the larynx. His rule now is to delay the operation as long as possible. In convalescence much care is needed: the best remedies are iron, quinine, wine, a generous diet, fresh air, and sun. His treatment, therefore, consists in tonics and stimulants, represented by quinine wine, alcohol and ether, coffee and tea, ipecacuanha in emetic doses, emollients and slight astringents locally. Tracheotomy is generally proscribed, but may be useful in exceptional cases.

5683. *Dourado on Pilocarpine in the Treatment of Adenitis.*—Dr. Dourado employs pilocarpine in the treatment of chronic enlargement of the lymphatic glands. He mentions a case of enlarged cervical glands in which two injections of salicylate of pilocarpine caused the swelling to disappear. In a case of parotiditis the remedy was equally successful. Injections of pilocarpine also cured two cases of adenitis of the inguinal glands.

5684. *Carreras-Aragó on Iodol in Affections of the Eye.*—Carreras-Aragó uses iodol as powder, also in pomades, 1 or 2 per cent. with vaseline; in solution, 1 gramme of iodol, 16 of alcohol, and 34 of glycerine. The powder is generally to be preferred; it produces much less irritation than iodoform, and is indicated in similar cases. Good results have been obtained in lymphatic and pustular conjunctivitis, in superficial keratitis with exudation in the cornea, in pannus and recent albugo, in the superficial ulceration of lacrymal fistula, and wherever it is necessary to produce slight stimulation of the circulation. It is contra-indicated in affections of acute irritative character. Successful cases of ciliary blepharitis, vascular keratitis with exudation at the cornea, hypopyon with abscess of the cornea, are given in detail. Iodol is destined to take the place of iodoform, since it is inodorous, causes less irritation, and from the great quantity of iodine it contains it acts as a true antiseptic. G. D'Arcy Adams, M.D.

5685. *Trousseau on Iodol in Ophthalmic Surgery.* Iodol, which was discovered last year, presents the aspect of a greyish powder, and is free from any odour. It is a combination of iodine and pyrrol, containing 85 per cent. of iodine. This therapeutic agent is analogous to iodoform, which is known to be most effective in ocular therapeutics, but it has the further advantage of being inodorous. Dr. Trousseau has tested its value in ophthalmic surgery by making experiments on rabbits and dogs. The results obtained lead him to recommend a pomade composed of 10 grammes of vaseline, 2 grammes of iodol used as a pomade; also a solution composed as follows: Iodol, 3 grammes; alcohol, 35 grammes; glycerine, 62 grammes—a total of 100 grammes. In experiments on animals, Dr. Trousseau found iodol powder too irritating to be generally used. It is impossible to obtain a concentrated solution of iodol in water; pure alcohol is the best solvent of iodol, but renders the solution irritating and painful on application. Dr. Trousseau, therefore, on M. Boymand's suggestion, added a considerable quantity of glycerine to his preparation, which can be used for the cornea and most sensitive parts of the eye without any seriously disagreeable results. Dr. Trousseau has used both the pomade and solution in his practice; the pomade does not cause the slightest pain; the solution causes a certain amount of pain, and on that account ought not to be used unless followed by results superior to those of the other curative agents, whose place it takes. The pain, nevertheless, is not greater than that caused by nitrate of silver, or sulphate of copper. In blepharitis without ulceration, iodol is inferior to the pomades of mercuric sulphide and zinc oxide in common use, but in ulceration the iodol preparation was more efficacious. Frequent applications of the pomade (five or six times a day), favourably modify the ulcerated surface, especially if every night and morning the ulcerated surface is painted over with the solution. In affections of the lacrymal duct and gland iodol can only be used as a solution, but the disadvantages attending it prevent Dr. Trousseau from recommending its use. He concludes from his practice and experiments that iodol can replace iodoform; it is perfectly well tolerated in ophthalmic treatment. It favourably modifies ulcerated blepharitis, chronic conjunctivitis, and some forms of vascular keratitis. It is especially efficacious in phlyctenular conjunctivitis and sluggish ulcers of the cornea. In solution, it modifies granulation. Dr. Trousseau does not consider that its antiseptic qualities are sufficiently well defined to justify him in using it for infectious ulcers of the cornea, or in dressings after operations for cataract iridectomy; &c., but if its antimicrobic properties be confirmed, it will rank as a valuable agent in ophthalmic surgery. W. Vignal.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

5686. Pinard, Dr. A.—On Premature (Spontaneous) Rupture of the Membranes of the Human Ovum. (*Annales de Gynécologie,* March and May 1886.)

5687. Polaillon, Dr.—On a Case of Hernia of the Bladder through the Vulva with Strangulation. (*Archives de Tocologie,* May 15, 1886.)

5688. Tillaux, Dr.—On a Case of Vaginismus. (*Annales de Gynécologie,* April 1886.)

5689. Tillaux, Dr.—On a Case of Urethro-vaginal Fistula. (*Annales de Gynécologie,* April 1886.)

5690. Andreiev, Dr. N.—Clinical Observations on the Existence of an Uterine *Souffle,* after Delivery. (*Archives de Tocologie et des Maladies des Femmes,* April 15, 1886.)

5691. Chatard, Dr. F., Jun.—On a Case of Extrusion of the Fœtal Membranes at the Seventh Month, with Subsequent Retraction. (*Obstetric Gazette,* April 1886.)

5692. Sutton.—On the Origin of Certain Cysts. (*Journal of Anatomy and Physiology,* vol. xx., April 1886.)

5693. Penny.—A Case of Sudden Death from Hæmorrhage into the Abdominal Cavity during Menstruation. (*Brit. Med. Jour.,* March, p. 539.)

Art. 5686. *Pinard on Premature (Spontaneous) Rupture of the Membranes of the Human Ovum.*—Alluding to the thesis of Dr. Lacaille on the influence of the site of insertion of the placenta on the duration of pregnancy, on the date of rupture of the membranes, and on the development of the fœtus, Dr. Pinard confirms his opinion that, when the placenta is inserted into the inferior segment of the uterus, discharge of blood and liquor amnii takes place, together with rupture of the membranes, and consequently premature labour. The limit of safety is 12 centimètres above the os uteri; and if the placenta be inserted below this, the development of the uterus will be interfered with as early as the seventh month, and rupture of the membranes will take place before dilatation of the os is complete, and very probably before labour has even commenced. Out of a total of 1,394 labours, in 147 cases rupture of the membranes took place before labour-pains were noticed. By careful measurement of the membranes from the edge of the placenta to the torn edge, a very fair idea may be formed of the site of insertion; and by this means, in 105 out of the 147 cases, the placenta was found to have been inserted less than 10 centimètres from the os uteri. Of these 147 cases, 54 were primiparæ and 93 multiparæ, while 72 were confined prematurely, and the remainder at term. There were 127 ordinary head-presentations, 18 breech, 1 face, and 1 shoulder. By the same method, the placenta was found to have been inserted less than 10 centimètres from the os uteri, without premature rupture of the membranes, in 245 cases, but of these premature labour occurred in 95. From these figures, Dr. Pinard infers that the insertion of the placenta on the middle and inferior segment of the uterus is very frequent, probably more so than on the upper third. He remarks, too, that, *cæteris paribus,* premature rupture occurs more readily in primiparæ than in those who have borne children. He attributes such premature rupture for the most part to implantation of the placenta on the inferior segment of the uterus; further, he says that premature labour very often results from the same cause, even where it has not been preceded by any loss of liquor amnii or blood. The reason of this is the inability of the membranes to follow the development of the uterus *pari passu* without drawing on the placenta, with the result sooner or later of producing rupture of the membranes, or of inducing labour by detaching the placenta. It is worthy of note that where, in such cases, the membranes rupture prematurely, hæmorrhage does not generally follow, while if the membranes resist, detachment of the placenta and hæmorrhage result; hence the desirability of artificial rupture, even before labour has commenced, where a vicious implantation of the placenta is diagnosed. In conclusion, Dr. Pinard mentions that in many thousand labours he has never met with the so-called central implantation, all the cases he has seen having been marginal.

5687. *Polaillon on a Case of Hernia of the Bladder through the Vulva with Strangulation.*—The patient was a woman with deformed pelvis, who, after a severe labour, had an enormous vesico-vaginal fistula. She had consented to an operation for the obliteration of the vulvar orifice, but left the hospital before this could be done. The following year, she returned in a very bad state. On examination, a tumour of the size of an orange, of a violet colour, was seen protruding between the labia, and this turned out to be the bladder gripped at the entrance to the vagina. Any manipulation of the tumour was attended with great pain and considerable hæmorrhage. The obliteration of the vaginal aperture was again suggested, and this time was agreed to, and performed under an anæsthetic. The labia minora and the internal surface of the labia majora were cauterised by means of the thermo-cautery, in order to secure large granulating surfaces. These were approximated by means of sutures carried right through, and the labia of the opposite sides were brought securely into contact. Obliteration of the vulvar orifice was thus obtained, a small orifice being left below the meatus urinarius. After the operation, no urine escaped while the woman was recumbent, and only to a small extent when erect. It was proposed to fit on a sort of receptacle, but she left before this had been prepared. Some months later, she returned once more as bad as ever. The vesical hernia and strangulation had recurred; and, although the vulvar orifice was smaller than in the first instance, the effect of the former operation had been almost entirely destroyed, the husband and the surgeon having apparently worked at cross purposes. Dr. Polaillon considers the case of interest on account of its rarity.

5688. *Tillaux on a Case of Vaginismus.*—In a clinical lecture at the Hôtel Dieu, at Paris, Dr. Tillaux showed a girl, aged 18, with whom sexual intercourse was impossible on account of the extreme hyperæsthesia of the vulva and vagina. In his remarks, he divided cases of vaginismus into two categories; the *symptomatic*, resulting from excoriations or inflamed conditions of the parts — this variety being therefore of adventitious origin; and the *essential*, which is neurotic in character, the spasmodic contraction of the various muscles being only secondary to the hyperæsthetic condition of the mucous membrane. In refutation of the idea that the muscular spasm was the initial and mechanical cause of the dyspareunia, as it has been termed, he mentioned the fact that all muscles such as the sterno-mastoid, which are subject to constant spasm, ultimately become shortened; and this he demonstrated to have not occurred in the present instance, by the absence of any contraction when under chloroform. The proper treatment in these cases, he said, was stretching or division of the nerves, by dilatation under an anæsthetic, or by incisions inside and parallel to the vulvar orifice, made to join behind. The operation had been successful in several cases under his care, a cure resulting in the course of a few days.

5689. *Tillaux on a Case of Urethro-vaginal Fistula.*—The patient was a woman, aged 30, in whom the fistula followed a laborious confinement terminated by means of the forceps. She had been operated on three times, the first attempt having been made six weeks after confinement, the second after an interval of three months, and the third at the expiration of a year. Generally, vaginal examination by the finger or speculum is sufficient to establish a diagnosis; but in this case by neither means could any trace of a fistula be discovered, and the urine when drawn off by means of a catheter, did not escape by the vagina, nor was any leakage apparent on injecting tepid milk into the bladder. On withdrawing the catheter, however, a few drops of the milk were seen to escape from a small orifice in the posterior wall of the urethra. This is a rare form of fistula, and, as has been shown, is rather difficult of diagnosis. In the operation for its closure it is important, in paring the mucous membrane, not to interfere with that lining the urethra, and not to allow the sutures to project into the canal. The operation was quite successful in the present instance.

5690. *Andreiev on the Existence of an Uterine 'Souffle' after Delivery.*—Dr. Andreiev has contributed notes of a series of careful observations which tend to prove the existence of an uterine *souffle* after labour. This *souffle* is feebler than that of pregnancy, and is markedly intermittent, but it can always be detected with due care and patience. Like the *souffle* of pregnancy, it is more frequent on the left side, and, like this also, it may be found on either side, and occasionally on both. The *souffle* after delivery is very manifestly influenced by the involution of the uterus; the more rapid and complete the latter, the feebler the *souffle*. It is not dependent on, nor is it sensibly modified by, any abnormality of uterine position or inclination, and bears no relation whatever to the site of insertion of the placenta. Its duration varies very greatly; in healthy parturients the average is fifty-seven hours, and in debilitated subjects ninety-nine hours. Dr. Andreiew adds that the uterine *souffle* cannot be accepted as proof of pregnancy, since it frequently accompanies other conditions of the uterus, notably interstitial fibroids. Curiously enough, it is not present in the case of subperitoneal fibroids, although why this should be so is not easily explained.

5691. *Chatard on a Case of Extrusion of the Fœtal Membranes at the Seventh Month, with Subsequent Retraction.*—Mrs. B., in the thirty-third week of her second pregnancy, after an unusually long walk, complained of a sense of weight and fulness about the genitals, which, on examination, proved to be due to the presence of a soft fluctuating tumour, protruding from the labia, about the size of a small chicken's egg. This could be traced by the finger within the vagina, and extended up to and within the external *os uteri*, which was dilated to about the size of a shilling. The tumour was cylindrical in shape, moderately tense; its contents were perfectly fluid, and its walls about the thickness of the membranes at term. No uterine contraction could be perceived, and there was no pain when first seen, nor subsequently. The tumour gradually retracted, and by the third day it only projected slightly at the mouth of the womb, which was contracted to the size of a three-cent piece, and on the fourth day all was normal. The patient completed her pregnancy, and was confined in due course. Labour was normal.

ALFRED S. GUBB.

5692. *Sutton on the Tissue of the Hilum of the Ovary.*—Mr. J. Bland Sutton, in a paper on the development of cystic tumours found in the neighbourhood of the genito-urinary tract, sacrum, tongue, and trachea, considers details in relation to the tissue of the hilum of the ovary. This term is employed in Klein's *Atlas of Histology.* Mr. Sutton has systematically examined a large series of human fœtal ovaries, from the eighth to the ninth month. In all cases he found the tissue of the hilum very conspicuous, but varying considerably in amount. It consisted chiefly of connective tissue, and contained a very large number of veins. As a rule, the tubules constituting the parovarium could be traced with ease into the substance of the ovary, but they were, in the majority of cases, entirely confined to the hilum of the organ. [See Harz on the variations of this condition in different mammals, LONDON MEDICAL RECORD, vol. xiii., p. 87. The course of the tubules accounts for the development of papillomatous cysts generally in the tissue of the hilum, sometimes in the broad ligament (from the tubes of the parovarium), and very rarely in the stroma of the parenchyma, when the tubules pass beyond the limits of the hilum. See reporter's 'Papillary Cysts of the Ovary,' *Trans. Path. Soc.*, vol. xxxiii., 1882, p. 207.—*Rep.*] Associated with the tissue of the hilum were relics of the mesonephros (Wolffian body), named by Waldeyer the paroöphoron, which agrees histologically, as well as in the matter of development, with the paradidymis in the male (organ of Giraldès). Mr. Sutton believed that the connective tissue which makes up the tissue of the hilum was entirely derived from the degeneration of the mesonephros. The ovary was found to be sometimes divided, at birth, by a deep furrow, into follicle-bearing parenchyma and mesonephritic remains. In one case, at least, he succeeded in finding a papillomatous cyst in these remains, the tissue of the hilum. This pathological condition was observed by the reporter in 1881 ('Proliferating Cysts in the Ovary of a Seven Months' Fœtus,' *Trans. Path. Soc.*, vol. xxxii., 1881, p. 147). As the tissue of the hilum has its origin from the mesonephros, and is equivalent to the paroöphoron, Mr. Sutton proposes to discard the term, as well as the expression parenchyma of the ovary, and to regard the ovary as being compounded of two parts, the oöphoron and paroöphoron. He has found that a large proportion of fœtal ovaries are cystic. The cysts must very often disappear, else ovarian disease would be as common as rheumatism; but Mr. Sutton is at least justified in believing that cystic disease of the ovary in the adult is, at least, very frequently of congenital origin.

ALBAN DORAN.

5693. *Penny on a Case of Sudden Death from Hæmorrhage into the Abdominal Cavity during Menstruation.*—In the *Brit. Med. Jour.*, March 1886, p. 539, Mr. E. J. Penny records the case of a woman, aged 27, the mother of two children, who felt a sudden pain in the stomach one evening. The patient did not think it was anything serious, as she was menstruating, but went to bed and refused to send for a medical man, saying she would be better in the morning. She, however, gradually grew worse, and died suddenly about nine hours after she had first felt the pain. On making a *post mortem* examination it was found that the whole of the right side of the abdominal cavity was full of blood. All the organs were carefully examined, and all the principal arteries were carefully looked at, but no lesion could be found anywhere. On examining the right ovary, however, there was discovered a large clot adherent to the outer surface of the organ, and two ruptured Graafian vesicles were seen. In the neighbourhood of these were several ruptured vessels; and the author had no hesitation in stating that death was due to hæmorrhage from a ruptured Graafian follicle during menstruation. RICHARD NEALE, M.D.

PATHOLOGY.

RECENT PAPERS.

5694. KRAJEVSKI.—On Preventive Inoculations for Anthrax. (*Centralbl. für die Med. Wiss.*, No. 1, 1886.)

5695. CUNNINGHAM.—On the Relation of Cholera to Schizomycete Organisms.

5696. PETRONE.—On Septicæmia. (*Lo Sperimentale*, October 1885.)

5697. LEDESMA, I.—Congenital and Hereditary Anomalies of the Heart. (*Anales del Circulo Medico Argentino*, January 1886.)

5698. RENAUT.—On Successive and Spontaneous Thrombosis Simulating Miliary Tubercle.

5699 A Case of Myoclonus Spinalis Multiplex. (*Progrès Méd.*, Feb. 27, 1886.)

ART. 5694. *Krajevski on Preventive Inoculations for Anthrax.*—Krajevski reports (*Centralbl. für die Med. Wiss.*, No. 1, 1886) the results of an experiment made by Professor Zenkovski. The two matters ('premier' and 'deuxième') were prepared by Zenkovski in the botanical laboratory of the University of Charkoff. During the summer of 1885 he inoculated 1,333 sheep with the two matters; the highest loss after these inoculations was 2 per cent. Subsequent inoculation with diluted anthrax-blood produced no effect. On November 5, 1885, the sheep were examined by a commission, who selected thirty; these thirty sheep, together with ten uninoculated sheep, were inoculated with anthrax-blood diluted with water; all the uninoculated sheep but one died; eight in from twenty to forty hours, and the ninth on the sixth day. The inoculated sheep, after inoculation with the virulent blood, experienced a rise in temperature on the following day, but in every case the normal temperature was regained by the fourth day. One of the inoculated sheep was hunted to death by dogs on the fifth day, and another died on the thirteenth day of pleuro-pneumonia and pericarditis; in neither case could the bacillus anthracis be found in the blood or tissues; the other twenty-eight sheep survived. The annual mortality among the merino flocks in the district of Kherson is stated to have been from twelve to twenty per cent., so that its reduction to from two to three per cent. is looked upon as a great gain.

5695. *Cunningham on the Relation of Cholera to Schizomycete Organisms.*—Surgeon-Major D. D.

Cunningham reports the result of the examination of alvine evacuations in cholera. The cultivations were carried out with Agar-agar, 1·5 per cent., as gelatine did not afford a medium which remained solid at the temperature of the air in Calcutta at the period when the investigation was conducted. Plate cultivations were made from intestinal materials from twenty-two cases. A development of commas occurred in sixteen; in one of the other cases, it subsequently turned out that the case was not one of cholera; in two others the nature of the material was doubtful; in two others the Agar-agar had an acid reaction; there remained, therefore, only one case where undoubted cholera material in a favourable medium did not give a recognisable crop of commas; in this case, colonies of minute straight bacilli abounded. In one case where no commas could be recognised in the original material, plate cultivation yielded a crop. The general conclusion on this point is 'that the belief in the presence of easily cultivable commas, as a very constant and characteristic feature in the dejections and intestinal contents in cases of the disease, is a well-founded one.' Thirty-three samples of normal alvine materials were examined, and curved schizomycete organisms were found to be present in varying numbers in every case; in cultivations made from those materials, colonies of various kinds, some presenting to the naked eye appearances closely resembling colonies of Koch's comma-bacilli, developed, but in no instance did the true comma-bacilli appear. Neither did any development of true comma-colonies occur when cultivations were made from the contents of the cæcum of healthy guinea-pigs, though this material contained many curved organisms. The ponds in and around Calcutta are covered by a scum of Euglenæ, except during the rains. The under surface of this scum is a favourable site for the development of schizomycete organisms; among these are many curved forms; cultivations from this material in feeble alkaline Agar-agar jelly yielded colonies of distinct commas. By cultivating comma-bacilli in various media, Dr. Cunningham succeeded in obtaining varied vacuolate forms, some circular, others elliptical, such as Dr. Klein noticed in cultivations made at low temperatures. Dr. Cunningham found the vacuolation and multiplication by longitudinal splitting to be associated with acidity or partial exhaustion of the nutrient medium. By transplanting again into alkaline media and cultivating in series, typical comma-colonies were obtained again on about the fourth plate. Dr. Cunningham believes that the comma-bacillus is polymorphic, and that its absence can only be demonstrated by carrying out a series of cultivations in media highly favourable to its development; otherwise, he contends, it is impossible to prove that forms capable of being developed by such successive cultivations into typical comma-bacilli may not have been present in the original materials.

Dawson Williams, M.D.

5696. *Petrone on Septicæmia.*—The author, after an experimental study of septicæmia, arrives at the following facts. Septicæmia, produced by the injection of artificial putrid liquids, sterilised at a temperature above 140° C. (284° F.), is due to a chemical, non-organised, lifeless principle. The bacilli and cocci found in the blood of the inoculated animals are secondary, that is, are derived from the ordinary inoffensive schizomycetes of the human blood, which, in presence of the chemical poison, multiply and acquire a pathogenic activity. The artificial putrid liquids, under the prolonged action of a temperature varying from 20° to 40° C. (68° to 104° F.), lose their septic property in consequence of a sudden alteration, caused as much by the chemical poison as by the albuminoid substances. The septic bacteria take a great part in this alteration, becoming transformed into brilliant corpuscles while retaining their proliferating activity. This transformation of septic bacteria takes place equally in the presence or absence of oxygen. The septic liquid, submitted to the prolonged action of a temperature of 40° C. and containing inoffensive microbes, does not again acquire virulence.

5697. *Ledesma on Congenital and Hereditary Anomalies of the Heart.*—In the *Anales del Circulo Medico* of Buenos Ayres, January 1886, Dr. J. Ledesma gives the history of a family, many of whose members suffered from congenital heart-disease and cyanosis. The grandfather was subject to articular rheumatism and dropsy. He had three sons. One only, A. F., the father of the present family, showed signs of heart-disease. Cyanosis is in him but slightly marked. The apex-beat is in the sixth interspace in the nipple line; epigastric pulsation is marked; the pulse is full and large, regularly intermitting, bigeminal. Pericardial dulness is increased transversely. On auscultation, the normal sounds are heard at the vertex, intermitting with the pulse. The sounds are heard twice, and are then followed by a single sound, succeeded by a long silence. At the base the diastolic sounds are weak, and in the second intercostal space to the left of the sternum is heard a systolic murmur, limited to its focus. His wife was perfectly healthy. They had eleven children. The first son lived only eighteen days, and died suddenly, cyanotic. The second is absent; no history. The third is 28 years of age, very cyanotic. The apex-beat is in the fifth space; the sounds are normal at the apex, weak at the base, and the second sound is redoubled, and heard low over the sternum, where a short single systolic murmur is also heard; the pulse is markedly dicrotic. The fourth is also cyanotic; the apex-beat is between the fourth and fifth spaces in the nipple line; the sounds are normal; the second sound is reduplicated at the apex. The fifth son was drowned while young. The sixth, aged 22, is cyanotic; the second sound is reduplicated at the base; the pulse is dicrotic. The seventh, a daughter, aged 19, is very cyanotic; the sounds are normal; the pulse is dicrotic. The eighth, a daughter, died suddenly, one day after birth. The ninth, a son, is not cyanotic; the heart apex is in the fourth space; the pulse is dicrotic. The tenth, a daughter, died soon after birth. The eleventh, a daughter, aged 12, is not cyanotic; the heart beats in the fifth space outside the nipple line; the sounds are normal at the apex; the second is reduplicated at the base; the pulse is very dicrotic. *Summary.* The first, eighth, and tenth children died suddenly shortly after birth; the fifth was drowned at 13; the second is absent; the third, fourth, sixth, and seventh are all more or less cyanotic, with alterations of heart and pulse; the ninth and eleventh are not cyanotic, but have analogous alterations of the heart and pulse. The grandfather suffered from rheumatism and heart-disease and dropsy. The father presents symptoms of heart-disease, probably congenital.

G. D'Arcy Adams, M.D.

5698. *Renaut on Successive and Spontaneous Thrombosis Simulating Miliary Tubercle.*—At a recent meeting of the Medico-Surgical Society of

Paris, M. Renaut read notes of a case of spontaneous thrombosis which simulated miliary tubercle. The patient, a young girl, aged 18, was admitted into his wards with a temperature of 40 C. (104° Fahr.). She was partially delirious during twelve days, but the delirium did not present any special feature; soon afterwards she had a stitch in the right side, the sputa were rusty, and she had all the symptoms of limited induration of the inferior lobe of the right lung. These symptoms of pneumonia were transitory and soon disappeared; gradually the fever disappeared, and on the thirtieth day there was phlegmasia of the right lower limb. M. Renaut diagnosed miliary tuberculosis. He was quite certain that the patient had not brought on abortion. On the forty-fifth day after she was taken ill, all the symptoms of meningitis, typical of granular tuberculosis, were present. At the necropsy, nothing was observed but a few tubercles at the apex of one of the lungs, and a caseous bronchial gland, slightly pressing on the aorta, which explained the systolic *souffle* observed during life. A thrombosis obliterated the right femoral vein; there was also a hæmoptoic infarct in the pulmonary region where induration was diagnosed. The infarct proceeded from a thrombosis of the minute branches of the pulmonary artery. The heart was healthy. There was also complete thrombosis of the superior longitudinal sinus. The lung-lesions can be accounted for by an infarct proceeding from the femoral vein, and creating the pulmonary infarct. The femoral thrombosis and that of the superior longitudinal sinus remain unexplained. M. Renaut carefully sought at the necropsy for indications of pneumonia, either old or recent, but failed to discover any.

5699. *A Case of Myoclonus Spinalis Multiplex.*—Paramyoclonus multiplex is the most recent pathological novelty. Two cases are on record; one described by Friedreich, who invented the name; and another by Löwenfeld, of Munich, under the name of myoclonus spinalis multiplex. A third, a few days ago, was met with among M. Charcot's out-patients at the Salpêtrière Hospital. The patient was a lead-worker, aged 52, but not employed in a lead-foundry. He had never suffered from lead-poisoning. When 27 years of age, the patient had severe dull pains in the legs, which were cured by vapour-baths. He was obliged to use crutches. The joints were not swollen. Three years ago the pains returned, accompanied by pains in the arms and shoulders. On awakening in the morning, his limbs, besides being painful, had a sensation of numbness and intense cold; there were also violent darting pains in the penis, which came and went quickly. The patient suffered from cramps, his legs were weak, and he became quickly fatigued. Last August he had an attack of vertigo, and was unconscious during twenty minutes; delirium followed. During the last three years he had sudden muscular contractions; he did not, however, apply to the hospital on account of these, but for extreme weakness. When he attended the out-patient department, a peculiar movement was observed at the knee-joint, whether of flexion or of extension it was difficult at first to say, and he was admitted into the wards that this peculiarity might be studied. The muscular contractions were most violent when the patient was lying down in bed. Compression increased rather than relieved them. The patient was pale and anæmic. He had an inguinal hernia; his digestion was impaired, and nutrition was imperfect. The urine was normal; sexual desire was entirely absent. The patient left the hospital a few days after his entrance, to return to his family. W. Vignal.

OPHTHALMOLOGY.

RECENT PAPERS.

5700. Panas.—An Operation for Complete Ptosis. (*Archiv. d'Ophthal.*, January-February 1886.)

5701. Meyhöfer.—On the Frequency of Premature Cataract among Glass-workers. (*Klin. Monatsbl. für Augenheilk.*, Band xxiv., p. 49.)

5702. Lawrentjeff.—Complete Irideremia of Both Eyes. (*Centralbl. für Prakt. Augenheilk.*, February 1886.)

5703. Maier.—On Acute Glaucoma produced by the Instillation of Cucaine. (*Bericht der Ophthal. Gesellsch. Heidelberg*, 1885.)

5704. Magnus.—A Case of Temporary Amaurosis without Ophthalmoscopic Signs. (*Klin. Monatsbl. für Augenheilk.*, Band xxiv., p. 67.)

5705. Knapp.—On the Action of Bacteria on Operations on the Eye. (*Archives of Ophthalmology*, March 1886, p. 24.)

5706. Wood-White and Würdinger.—Corneal Lesions following the Use of Cucaine.

5707. Tekutiëff, Fedor S.—On Iodoform in Chronic Trachoma and Corneal Pannus. (*Proceedings of the Caucasian Medical Society*, No. 18, 1885, p. 445.)

5708. Castellarnau.—Hysterical Amaurosis. (*El Siglo Medico*, Dec. 20, 1885.)

5709. Solomon.—Acute Keratitis. (*Lancet*, April, p. 762.)

Art. 5700. *Panas on an Operation for Complete Ptosis.*—This operation is applicable to cases of complete ptosis, whether congenital or paralytic; it resembles some others in aiming at bringing the contraction of the occipito-frontalis to bear upon the upper lid, but it differs from them in at the same time weakening the action of the orbicularis. After describing the various operative proceedings which have been proposed for complete ptosis, and pointing out their defects, the author describes his own operation as follows. The lid is rendered rigid by a horn speculum placed beneath it, and an assistant, by pressure upon the forehead, prevents the skin from being glided over the deeper tissues. A transverse incision is then traced over the integuments of the lid, slightly concave downwards, its extremities lying about 3 millimètres above each canthus; only the extremities of this incision are, however, actually made; the central portion, measuring 8 millimètres, is left undivided; the incisions pass through the integuments, and expose, but do not cut, the expansion of the levator palpebræ. From the adjacent extremities of these incisions, two parallel vertical ones are carried up to the sulcus between the lid and the forehead; these are crossed by a horizontal incision, which follows this sulcus, and is 20 millimètres long. This transverse incision passes down to, but does not involve, the periosteum. Another horizontal incision, 30 millimètres long, is made parallel to and above this last, within, or immediately below, the eyebrow, and also exposing the periosteum. The median flap in the eyelid is now carefully dissected up down to its base, the orbicularis muscle being raised with it, and three sutures are passed through its free border. Next, the bridge between the two uppermost horizontal incisions is dissected up from the periosteum, care being taken in both these dissections not to injure the palpebral ligament. The bridge having been raised, the upper border of the flap is carried beneath it, and sutured to the upper edge of the uppermost incision, being thus attached to the occipito-frontalis. The ectropion which would thus be produced is obviated by two lateral and deep sutures; these are passed through the tarsus, where it is exposed by the first incision, and are carried up beneath the conjunctiva to the same level as the other sutures. The combined action of the sutures, acting in different planes, results in a direct upward traction. The sutures are generally removed about the fifth or sixth day, but the bandage must be continued until the cicatrix is firm. At first, the result is always an over-correction; but the lid gradually descends, and the permanent condition is reached in from four to six weeks, when the traces of the operation are said to be barely noticeable; of the two cicatrices, one is concealed by the eyebrow, and the other lies in the natural depression which exists between the lid and the eyebrow.

5701. *Meyhöfer on Premature Cataract among Glass-workers.*—Among 506 glass-workers Meyhöfer found lenticular opacities in 59, or in 11·6 per cent. Of the 506 workmen, 134 were under 20 years of age, 212 were between 20 and 30; 96 between 30 and 40; 45 between 40 and 50; 16 between 50 and 60; 2 between 60 and 70, and 1 over 80. It is difficult to fix a limit of age below which cataract is to be considered as premature; but, deducting those who were over 40, there remain 442, and 42 of these, or 9·5 per cent., presented lenticular opacities. Of these, 6 were under 20; 20 between 20 and 30; and 16 between 30 and 40; the average age being 28·1. The left eye alone was affected in 19 cases, the right alone in 7, and both in 16. The most common condition in the early stage was the presence of numerous striæ on the posterior surface. The workers usually commence in their sixteenth year, and from that time their work consists in dealing with molten and glowing masses of glass in the immediate vicinity of immense furnaces. At very frequent intervals the workman has to remove pieces from the fire, when the left side of the face is exposed to the full glare from the open furnace. The temperature at the distance at which the face has to be held was found to be 65° C. (104°·5 F.). The men work for ten or twelve hours daily, Sundays and week days, for about forty to forty-five weeks, when the furnace usually requires repairing and is extinguished; there is then generally an interval of about eight weeks. Most of the workers show distinct traces of this exposure, there being frequently a reddish-brown discoloration of the skin on the left side of the face, which is dry and leathery. In many, there are also inflammatory changes in the deeper layers, leading to cicatricial contraction. The perspiration literally streams off the faces and partially exposed chests of the workers; indeed, the perspiration is said to be greater than occurs in those working in an iron foundry. The wages being good, the workmen live well, and their general health does not appear to suffer; but the severity of the work generally compels them to seek comparatively early for lighter employment in the industry. The author attributes the frequency of cataract to two causes—direct loss of water by perspiration, and direct exposure to the heat. In the only general disease which is known to have any direct connection with the formation of cataract, namely diabetes, there is also loss of water from the tissues in consequence of the polyuria. It is true that in the glass-worker the loss of water from the cutaneous secretion is not constant; but, when it is considered that it goes on daily for ten or twelve hours for about forty weeks, it does not seem an unreasonable conclusion that the replacement of the water thus lost may be incomplete, and may lead to irregularities in the tissue-changes. The author suggests that the fact that slowly maturing cataracts not unfrequently rapidly ripen during an acute illness, may possibly depend on the sudden increase in the loss of water sustained by the tissues in the reaction following the febrile temperature. The influence of direct exposure to the heat is seen in the greater frequency with which the left eye is affected. [In a lecture by Dr. Jeaffreson (*Lancet*, Feb. 27, 1886), the frequency of cataract among bottle-makers in the north of England is mentioned.—*Rep.*]

5702. *Lawrentjeff on Complete Irideremia of Both Eyes.*—The subject of this deformity was a man aged 38. Both corneæ were of oval form, and in each there was a complete peripheral ring of diffuse opacity. In the right the curvature was irregular, appearing flatter in the upper than in the lower half. No trace of iris could be seen, and the whole of the equator of the lens was visible. There was a central superficial opacity of the lens, with radiating striæ of various lengths, but not reaching to the equator. The fundus could be seen between the striæ and round the whole of the margin of the lens. No trace of the ciliary processes could be seen. There was no photophobia. When looking in the distance the eyes were steady, but, on looking to either side, horizontal nystagmus came on, while on looking upwards or downwards vertical nystagmus appeared. There was an alternating divergent strabismus. The visual field was contracted in each eye, especially in an upward and inward direction. V. = 3-100ths in each eye; that of the left was improved by a stenopäic slit to 10-100ths. With the left eye the patient could read Jäger 6 at 2½ inches, but with the right he could read nothing. There was oscillating nystagmus on attempting to read, which he could only do when the book was turned so that the lines were almost vertical. The parents and other children had normal eyes. There was no history of any inflammatory attack. Focachon has previously remarked on the frequency with which irideremia is associated with the oval form of the cornea. The author considers that the peripheral opacity of the cornea indicates an arrest of development—an imperfect differentiation between cornea and sclerotic, a condition to which Wecker and Stellwag have given the name of the fœtal ring. Out of thirty cases of irideremia collected by the writer, it was present in one of the eyes in eight. Irideremia is almost always accompanied by opacities of the lens or capsule; in only two of the above-mentioned thirty cases, was the lens quite clear; and according to Sichel, even in such, lenticular opacities always appear later. As regards accommodation, the author has only been able to find eight authentic cases in which this function was normal; and in these the ciliary processes were visible, and could be seen to become thicker, and to approach each other during accommodation. The paper will prove a valuable one to anyone who is looking up the subject of congenital malformations, as the writer gives a great number of references.

5703. *Maier on Acute Glaucoma produced by Instillation of Cucaine.*—The subject was a man, aged 52. Ten years previously the author had seen him, and found in the left eye deep glaucomatous cup, arterial pulsation, and complete amaurosis. The right eye was then quite normal. Owing to a difficulty in seeing to work the patient applied again, when in the right eye vision was found to be 1-7th; there was a high degree of presbyopia. The pupil and anterior chamber were normal, and the media clear. The optic disc was somewhat pale, and presented a shallow excavation. Tension was slightly increased, and the author believes that there was slight concentric contraction of the visual field. Eserine drops were ordered, and it was intended to perform a sclerotomy on the following morning; by an error, cucaine drops were used instead, one drop in the evening and another in the morning. At the morning visit, the patient complained that since the drops were used he had violent pain in the right eye and forehead, and that he could no longer see. The eye presented the typical appearance of acute glaucoma. The pupil was widely dilated, the anterior chamber shallow, the media turbid, and the tension very high. The author thinks it not improbable that inflammatory symptoms might have appeared spontaneously in this eye later, as the patient had complained in the last few weeks of occasionally seeing rainbows round the candle; but he has no hesitation in attributing the acute onset of the attack to the action of the cucaine.

5704. *Magnus on Temporary Amaurosis without Ophthalmoscopic Signs.*—The patient was a well-nourished, but anæmic girl, aged 13. On Sept. 8, the patient suddenly noticed an impairment of vision, which in the course of three or four hours had increased so much, that by evening there was complete amaurosis. On the following day, complete blindness was still present, and she was taken to a medical man, who used atropine. The next day the author saw her, when she was in the following condition. Both pupils were fully under the influence of atropine; the movements of the eyes were normal; there were numerous old corneal opacities; ophthalmoscopic examination gave negative results. The patient could with difficulty distinguish light from darkness, and could only grope her way about the room. There was no history of headache, convulsions, or cramps. There had been some loss of appetite, and constipation, for the few days preceding the loss of vision. The urine was acid, specific gravity 1023, and contained numerous crystals of oxalate of lime, but no albumen or sugar. Quinine was given at first; after six weeks, injections of strychnine; and later preparations of iron. From Sept. 8 to Jan. 3, the condition remained completely unchanged. The eyes for the first month were examined daily, then at less frequent intervals, but no change was ever discovered. On Jan. 3, the patient suddenly noticed an improvement in the perception of light, and this increased so rapidly that in a few hours she could recognise large objects; and on Jan. 4 the vision was as good as before the attack—namely with −24 = 20-70ths. Further improvement was impossible owing to the presence of corneal opacities. The visual field for white showed a contraction of between 10° and 20°; that for blue was a little contracted; that for red or green not perceptibly so. The action of the pupils was now quite normal. (Their condition, after the effect of the atropine had passed off and during the period of blindness, is not mentioned.) The patient was often watched, unknown to herself, and the author considers that malingering was quite impossible.

5705. *Knapp on the Action of Bacteria on Operations on the Eye.*—This paper contains an account of some experiments conducted upon rabbits, with the view of ascertaining how the healing process of a pure wound of the eye differs from that of an infected one. In each case similar operations were simultaneously performed upon both eyes, the one being operated upon aseptically (not antiseptically) and the other being inoculated with a pure culture of bacteria. The non-inoculated eye was in each instance left without any protective bandage, and recovered without any suppuration. Nearly all those inoculated with septic microphytes were lost by suppuration. Some experiments were also made with the fungus of pink yeast, which does not possess pyogenic properties; a transient inflammation was produced, but no suppuration. The operations upon the globe were twenty in number; three discissions of the lens, eight extractions, six incisions, and three in which the cornea was pricked without being perforated. The inoculating material employed was the fungus of osteo-myelitis in thirteen, and the staphylococcus albus, aureus, citreus, or fœtidus, in the other seven. The inoculation was performed in various ways, by direct application of the material to the wound (in one instance, in which healing had commenced, no result followed), by placing it in the conjunctival sac previously to operating, by injecting it into the anterior chamber, and by using an instrument dipped in the infecting material. In one of these latter experiments a stream of water passed over the instrument for a quarter of a minute was demonstrated to be ineffectual in rendering it aseptic. In the instances of needling of the cornea without perforation, only local suppuration occurred. Panophthalmitis occurred in all the others, except the cicatrising wound already referred to, and two other instances; in one of these the knife, which had been infected and caused suppuration in the other eye, had been cleansed by a stream of water and friction with a towel. These experiments seem to justify the conclusion that in rabbits even the most severe injuries to the eye will not induce suppuration, unless there be also an introduction of pyogenic organisms; but that the latter, introduced in even the most minute quantity, will cause suppuration with almost absolute certainty.

5706. *Wood-White and Würdinger on Corneal Lesions following the Use of Cucaine.*—A considerable number of cases have now been recorded in which the use of cucaine has been followed by lesions of the cornea. These may be divided into two classes. In the first, the changes chiefly affect the epithelial layer, and consist in vesication and desquamation; in the second, there is opacity of the true corneal substance. Some experiments made by Würdinger (*Klin. Monatsbl. für Augenheilk.*, April 1886) seem to prove that the superficial lesions are due to the dryness of the cornea which follows the use of cucaine—a dryness which is caused in part by the conjunctival anæmia, and probably in part by the increased evaporation from the surface, produced by the wide opening of the palpebral fissure and the absence of the natural blinking movements. Experimenting upon rabbits, Würdinger found that if the eyelids were kept closed between the instillations of the cucaine, no changes took place in the appearance of the cornea; but that if the eye remained open, and a five per cent. solution were dropped upon the cornea at intervals of four minutes, after twenty or twenty-five minutes the whole surface presented a fine roughness, and the epithelium desquamated in places. The commencement of these changes could be seen three or four minutes after the first application, and their increase could be prevented by keeping the cornea constantly wetted with distilled water. It seemed clear, therefore, that the epithelial changes were due to the dryness of the corneal surface.

As regards the deeper changes, Dr. Wood-White (*Ophthalmic Review*, January 1886) appears to have been the first to point out the possibility that they are not due to the cucaine alone, but to the simultaneous employment of corrosive sublimate. He states that he had frequently used cucaine without having ever seen any ill effects, but that in five cases of cataract extraction, in which he used, in addition to the cucaine, a solution of corrosive sublimate as an antiseptic, in place of boracic acid, which he had previously used, there was a pearly-white opacity in the substance of the cornea, extending from the wound. The opacity was seen on the second day (presumably the first examination), and cleared up completely in a few days. Dr. White does not state the strength of the solution of corrosive sublimate used, or whether the same solution was applied to other eyes without cucaine; therefore his conclusion that the changes in the cornea were due to the combined action of the two drugs is somewhat premature, but it is rendered extremely probable by some further experiments of Würdinger. The latter (*loc. cit.*) found that, if fluorescine were applied to the cucainised and to a non-cucainised cornea in the same animal, the former became fluorescent throughout, the fluorescence appearing first in the deeper layers; while in the other eye only the superficial layers became fluorescent. Colouring matter applied to a slightly abraded cornea only stained the abraded part; but, performing the same experiment on an eye previously cucainised, he found that the whole cornea became coloured. Evidently, therefore, the action of the cucaine was to increase the absorbent power of the cornea. The most interesting experiments, however, are those in which Würdinger found that, if an eye were fully cucainised, weak solutions of corrosive sublimate, boracic acid, and even of common salt, which were perfectly innocuous to the normal eye, produced an interstitial opacity identical with the striated keratitis occasionally seen after extraction of cataract.

W. ADAMS FROST.

5707. *Tekutiëff on Iodoform in Trachoma and Pannus.*—Dr. Fedor S. Tekutiëff, of Tcheer-Jürt, describes (*Proceedings of the Caucasian Medical Society*, No. 18, 1885, p. 445) the case of a soldier, aged 23, with ocular symptoms of two years' standing, who on admission had photophobia, lacrymation, pricking pain in both eyes, failure of sight, contraction of the interpalpebral fissure, thickening of the palpebral edges, muco-purulent discharge, hyperæmia, œdema, and granularity of the conjunctiva of the lower eyelids, cicatrisation of that of the upper, opacity and pannus of the corneæ. Treatment by atropine and boracic acid, as well as an operative enlargement of the palpebral slit, failed to afford any relief, and the patient was about to be dismissed from service. But subsequent introduction into the conjunctival sacs of an iodoform ointment (ten grains to a drachm of vaseline, a piece of the size of a hemp seed at a time) was soon followed by the disappearance of pannus and corneal opacities, as well as of all subjective symptoms, by improvement of sight, &c., in short, by complete and permanent recovery. With equal success the iodoform treatment was practised by the author in a case of phlyctenular keratitis of trachomatous origin, which had not yielded to treatment by other means.

V. IDELSON, M.D.

5708. *Castellarnau on Hysterical Amaurosis.*—Dr. Castellarnau publishes the following case of hysterical amaurosis in the *Boletin de Hidroterapia* of Barcelona. A lady, aged 32, married, without children, of nervous temperament and weak constitution, had suffered from hysteria from a very early age. While working with a sewing machine, she noticed that for some reason it stopped, and, stooping over it to discover the cause, she pricked herself with the needle in the left superciliary region. She was very frightened, and thought that she had put her eye out; an attack of hystero-epilepsy, such as she had had before, supervened. On recovering, she found that she was totally blind. No lesion of the eyes could be discovered; but, though she was treated by several medical men, no improvement resulted. She then was transferred to Barcelona for further advice, where, after four months' hydrotherapeutic treatment, she completely recovered.

G. D'ARCY ADAMS, M.D.

5709 *Solomon on Acute Keratitis.*—In the *Lancet*, April 1886, p. 762, Mr. Vose Solomon notes that the constitutional disturbance, which accompanies acute inflammation of the cornea, has escaped the notice of most writers upon diseases of the eye. It is generally in young children, and some adolescents, that the disease is ushered in by a febrile disturbance, loss of appetite, with thirst and a sense of chill. The pulse is quick and easily compressible. Under these conditions small doses of tartarised antimony, in combination with liquor ammoniæ acetatis, prove useful. The main object should be to restore the action of the skin. Quinine will be found useful in reducing the febrile symptoms.

RICHARD NEALE, M.D.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

RECENT PAPERS.

5710. WOOD, DR.—On Lead-Poisoning. (*The Therapeutic Gazette*, Detroit, Feb. 15, 1886.)

5711. BUTTE, DR. LUCIEN.—On the Poisonous Effects of Bichloride of Mercury when Employed as an Antiseptic. (*Nouvelles Archives d'Obstétrique et de Gynécologie*, April 25, 1886.)

5712. FILIPPI.—The Spread of Blennorrhœa by Baths. (*Lo Sperimentale*, October 1885.)

5713. CICCONARDI, G.—On Lead-poisoning. (*Riv. delle Cliniche di Napoli*; and *Annali di Chim. e di Farmacologie*, February 1886.)

5714. CHAPIN. — Questions relating to Still-Birth. (*New York Medico-Legal Jour.*, December 1885.)

5715. ORTON.—Poisoning by Eggs. (*Practitioner*, April 1886.)

5716. MEAD.—Severe Gastro-intestinal Irritation caused by Tinned Fish. (*Practitioner*, April 1886.)

5717. BOCK.—A Case of Poisoning by Cucaine. (*Deutsche Med. Wochensch.*, No. 6, 1886.)

ART. 5710. *Wood on Lead-Poisoning.*—A case has lately come under Dr. Wood's care, which is interesting as showing how necessary it is to be always on one's guard against this form of intoxication. A gentleman in Pennsylvania was taken ill with very obscure nervous symptoms, which developed after domestic and business troubles, and which appeared to have been attributed by his various medical advisers to overwork and worry. It may be well to state that he had been under the care of several very eminent practitioners for some time previously to consulting Dr. Wood, but during all this time the nature of the case was not suspected. The chief symptom in the man's case was, and had been all along, a peculiar insomnia of a very obstinate and aggravated description, so that the patient had not consciously slept two consecutive hours, except under the influence of powerful narcotics. As soon as he went to bed he would be seized with a feeling of unrest, associated with a peculiar irritation of the skin, with formication and itching, which affected not only the skin but the mucous membranes. There was no palsy, and no failure of mental power. In examining the case, Dr. Wood first came to the conclusion that the insomnia was probably secondary, and produced by the peripheral nervous disturbance. It is a fact that persistent universal peripheral irritations, giving rise to pruritic sensations, when not connected with the change of life in women, are, in the majority of cases, due to the presence of some toxic agent. Such a person is often gouty, but here there was no gouty history nor symptoms. This led to the suspicion that the poisoning was plumbic, but no blue line could be discovered on the gums. In going over the history, the patient stated that at one time he suffered from horrible abdominal pains which, he said, usually came on shortly after eating. This condition lasted for some weeks, during which time the patient was excessively costive. On inquiring as to the water-supply, the patient stated that he obtained 'beautifully pure water from a mountain spring, running through metal pipes.' Chemical examination of the water used in the house of the patient showed that it contained a large proportion of lead. Further, although the patient had been away from home about a month, and had not been using the contaminated water, Dr. Marshall, of the University Chemical Laboratory, found lead in the urine. The process employed to ascertain the latter fact consisted in boiling three litres of urine down to two ounces, adding nitric acid until the organic matters were thoroughly charred, and then suspending in the liquid two pieces of platinum foil, connected respectively with the positive and negative poles of a battery. The material deposited on the negative pole was heated with dilute nitric acid, and the resulting solution treated with sulphuretted hydrogen. On reducing the black precipitate so obtained in the blow-pipe, metallic lead was obtained.

5711. *Butte on the Poisonous Effects of Bichloride of Mercury when Employed as an Antiseptic.*—Dr. Butte, after giving the notes of a series of cases in which toxic symptoms had been observed consequent on the employment of solutions of corrosive sublimate as antiseptic injections, points out how these symptoms may be masked by those incidental to the puerperal period, or resulting from injury. A frequent symptom is pain in the hypogastric region following an injection, with slight dyspnœa, but this often presents itself after the injection of other fluids. The most decisive effects bear on the alimentary canal. Some hours after the injection, sometimes only on the following day, diarrhœa supervenes with tenesmus, the motions soon becoming slimy, stained with blood, and exceedingly offensive. The rectal pain is marked, and severe colicky pains are complained of in the abdomen. Nausea and vomiting are often present. Salivation is generally absent, at any rate for some days, but stomatitis may occur. There is great dryness of the mouth and throat, with intolerable thirst. The quantity of urine excreted is most frequently diminished, sometimes to the extent of anuria, and it contains more or less albumen, together with epithelial cells and casts. There are no means by which the presence of mercury can be easily ascertained in the urine, but Netzel has established the fact that it is to be found there. The pulse becomes small and rapid. The temperature is probably only affected secondarily to the enteritis to which the drug gives rise. The patients generally complain of intense headache, with much prostration, which may amount to collapse. Erythematous eruptions on the skin of the vulva, thighs, face, arms, and trunk are often noticed, or the skin may become dry and irritable. Dr. Butte is disposed to attribute these toxic effects to the employment of mercurial injections where lacerations or ulcerating surfaces are present; but certain patients appear to be abnormally amenable to the toxic influence of the sublimate, and this is especially noticeable in cachectic and debilitated subjects. The *post mortem* appearances comprise injection of the lower portion of the small intestines, while in the large intestines the mucous membrane is extremely hyperæmic, and is necrosed in patches, and often covered with a diphtheritic exudation. The kidneys are enlarged and pale in colour; examined microscopically, the canaliculi are blocked by deposits of oxalate of lime, and there are signs of parenchymatous nephritis. The treatment consists in facilitating the elimination of the poison by means of diuretics and copious imbibitions of water. The diarrhœa should not be checked, but the various symptoms may be dealt with *secundum artem*. ALFRED S. GUBB.

5712. *Filippi on the Spread of Blennorrhœa by Baths.*—Professor Filippi comments (*Lo Sperimentale*, October 1885) upon an instructive case recorded by Dr. P. Aubert in the *Lyon Médical*, No. 35, 1885. A lady consulted Dr. Aubert about her little girl, 4 years old, who was suffering from a white vulvar discharge, accompanied by pain and smarting in urination. On inquiry, it turned out that the lady herself suffered from a like discharge, and that the child's ailment came on four days after having a bath with her mother. The lady's husband had for some weeks suffered from an urethral discharge. This he accounted for by his having drunk turbid wine, an explanation which, as it satisfied the unsuspicious wife, was not questioned by Aubert. The gonococcus was discovered in the secretion of both mother and daughter, and no means but the bath could be suggested to account for the transmission of the contagion. Another little girl in the same family, who did not share a bath with her mother, remained free from the disease. Professor Filippi goes on to relate an occurrence of the same description, but on a much larger scale. At the public baths of Santa Lucia, in Florence, fifty-five little girls were seized last year with vulvar discharge, some of them also being severely attacked with purulent conjunctivitis. The only explanation that could be given of the outbreak was, that the water had been previously contaminated by some person using the bath. The bearing of these facts is important from a medico-legal, as well as from a hygienic point of view. The necessity of bearing in mind this means of infection in charges of criminal assault does not need to be dwelt upon. To prevent the transmission of disease in this way, the author believes that the same water should never be used for a second person.

WILLIAM R. HUGGARD, M.D.

5713. *Cicconardi on Lead-poisoning.*—Moulin has recently shown the presence of lead in the skin in cases of saturnism. To test this fact, Cicconardi procured a 6 per cent. solution of monosulphide of sodium; four patients were experimented on, two suffering from lead-poisoning, and two from other diseases. After well washing their chests, the solution of monosulphide of sodium was painted on. In the cases of lead-poisoning, there occurred immediately a dark discoloration, gradually becoming an intense black; in the other cases there was no alteration. On the following day the manœuvre was repeated on the same parts, and the discoloration was very slight; but on the third and fourth days it was as deep as at first. The discoloration also appeared over the site of a recently healed blister. Cicconardi argues that it is necessary to stimulate the activity of the skin to procure the elimination of the poison.

G. D'ARCY ADAMS, M.D.

5714. *Chapin on Still-Birth.*—The question whether a child has been born alive is sometimes of great importance in the succession of property. Dr. H. B. Chapin thinks that there is in the present day a tendency towards physical degeneracy in women, and that the number of still-births is increasing. This last opinion was questioned by one of the speakers in the discussion, which followed the reading of the paper before the Medico-Legal Society. The debate was a most instructive one, bringing out both the medical and the legal aspects of the question. Mr. Clark Bell gave a clear statement of the statute law of New York in reference to criminal abortion and infanticide.

W. W. IRELAND, M.D.

5715. *Orton on a Case of Poisoning by Eggs.*—In the *Practitioner*, April 1886, Dr. Orton states that he was attending a lady who was suffering from bronchitis. One evening she took an egg beaten up in a little brandy and water. Before it had been down an hour she vomited violently, and the bowels acted several times. The next evening, she again took an egg and brandy; this time it did not cause any vomiting, but she suffered intensely from flatulence, spasms, suffocation, severe pains in the bowels, followed by diarrhœa and bilious headache, with great prostration. In a few days she was much better, but the thought of food caused nausea for some time afterwards. The patient stated that once her mother was made very ill by partaking of a rice-pudding made with eggs. [Reference to sect. 513 of the Appendix of the *Medical Digest* will further elucidate this idiosyncrasy regarding eggs.—*Rep.*]

5716. *Mead on a Case of Severe Gastro-intestinal Irritation caused by Tinned Fish.*—In the *Practitioner*, April 1886, Mr. Mead briefly describes the case of a man who suffered extremely after eating some 'tinned herrings.' His face became pinched, with an anxious expression; the temperature varied from 99° F. to 100°·5 F.; there were great thirst and a nasty coated tongue; vomiting was severe and consisted at first of food mixed with bile, but at last consisted of mucus mixed with blood. The stools were copious and numerous, and went on until nothing but pure blood was passed. There was a good deal of abdominal pain, with a rapid, irregular, and intermittent pulse, and a cold clammy skin. Three other men, who had also eaten herrings from the same tin, also suffered, but not so severely. The editor notes that similar results from eating tinned food have been attributed to contamination with chloride of zinc and chloride of tin, derived from the solder of the tins.

RICHARD NEALE, M.D.

5717. *Bock on a Case of Cucaine Poisoning.*—Dr G. Bock, a dentist in Nuremberg, had more or less successfully resorted to subcutaneous injection of hydrochlorate of cucaine in about 140 cases in his dental practice before he met with poisoning as a result in the following case, which he reports in the *Deutsche Med. Wochensch.*, No. 6, 1886. A strong woman, aged 28, in the latter half of the seventh month of pregnancy, had an injection of about six drops of freshly prepared 20 per cent. solution of Merck's cucaine between the gum and the alveolus, previously to extraction of a first molar tooth affected with acute periostitis. Care was taken that none of the cucaine should be swallowed. Extraction was successfully and painlessly effected. In five minutes the woman presented appearance of an approaching fainting fit. She answered all questions distinctly, but in another five minutes complained of not being able to see. The sensory nerves then became generally affected. Yet the pupils were normal; there was no particular pallor or cold perspiration; the conjunctivæ reacted to irritation, the breathing was regular, the pulse full and strong at between 80 and 90. She lay as one asleep, but with open staring eyes, and talking as in delirium. Strong coffee was given her. The upper extremities were relaxed as in chloroform narcosis; the lower extremities were tightly pressed against the operating chair. Smelling salts and sprinkling with cold water had no effect; nor did two injections of ether alter her condition. Two medical men, who were consulted, agreed that anæmia of the brain had resulted from contraction of the vessels. Examination of the eyes with the ophthalmoscope showed that the veins were normally full, the arteries rather thinner and paler than was natural, and the papilla of the optic nerve of the normal fulness. The inhalation of three drops of nitrite of amyl brought colour into the face in a few minutes; and in six minutes, another three drops having been inhaled, there was considerable flushing of the face and return of consciousness. A good night's sleep followed, and the woman was in perfect health the next day. She had never been subject to hysteria or nervous affections, but she had eaten little and slept less while working hard during the days immediately preceding the operation. This seems to Dr. Bock the explanation of the occurrence, for he does not think it the result of idiosyncrasy. In giving this case, Dr. Bock does not wish to warn against the use of cucaine, but to advise attention to unfavourable conditions. Inhalation of nitrite of amyl seems to him to compare favourably with the use of morphine.

JOHN ELLIOTT.

SCOPOLEINE.—Dr. Pierd'houy considers that scopoleine has properties similar to those of atropine, but is preferable because it produces neither redness nor irritation.

DISEASES OF THE NERVOUS SYSTEM.

RECENT PAPERS.

5718. Kostjurin, Dr. S.—The Senile Changes of the Cerebral Cortex. (*Medizinische Jahrbücher der k. k. Gesellschaft der Aerzte zu Wien*, 1886, Heft 2.)

5719. Wertheimer and Others.—The Respiratory Centres of the Spinal Corl. (*Comptes Rendus de la Société de Biologie*, Feb. 5, 1886.)

5720. Déjérine.—On a Case of Suppression of Reflex Action of the Patella; the Spinal Cord remaining intact, also the Posterior Roots. (*Comptes Rendus de la Société de Biologie*, April 16, 1886.)

5721. Déjérine and Vulpian.—On Radial Paralysis. (*Comptes Rendus de la Société de Biologie*, April 23, 1886.)

5722. Dupuy, Eugène.—On the Effect of Thermic Stimulation of the Brain. (*Comptes Rendus de la Société de Biologie*, April 9, 1886.)

5723. Huss.—Alcoholic Paralysis. (*American Jour. of Med. Sciences*, April; and *New York Med. Record*.)

5724. Waugh.—Treatment of the Alcohol Habit. (*New York Med. Record*, June 6.)

Art. 5718. *Kostjurin on the Senile Changes of the Cerebral Cortex.*—After quoting the results obtained by other workers in the same field (notably those of Tuczek), Dr. Kostjurin proceeds to discuss the investigations which he undertook in Professor Obersteiner's laboratory. The method employed was to harden a piece of the paracentral lobule in bichromate of potash, 2·5 per cent., the sections being stained with Weigert's hæmatoxylin to show the nerve-bundles, and with carmine and alum-hæmatoxylin to show the cells and nuclei. The vessels were studied by macerating in dilute bichromate of potash or chromic acid. The brains of twelve persons were examined, three men and nine women; they varied in weight between 1,333 and 788 grammes (47 to 28 ounces). The ages varied between 65 and 88. Six of the patients died of old age, one of inflammation of the lungs, one of tuberculosis, one of emphysema, one of chronic meningitis, and one of heart-disease. The conditions noticed were as follows. The nerve-cells were in four cases found degenerated; the protoplasm had mostly disappeared, and fat and pigment had taken its place. Where this degeneration was most marked, there was an increase of leucocytes, which possibly, like the leucocytes of Mecznikow, acted the part of destroyers. In five cases, the changes were not so well marked; some of the cells contained vacuoles. In three cases, the nerve-cells were normal. The calcification of cells, described in certain conditions by Forster, Virchow, and Friedländer, was not seen. The medullated nerve-fibres were fewer in number, and atrophied in proportion to the cell-changes; fatty changes being the most evident. In three of the cases the fibres were quite normal. Slight changes were noticed in the vessels of all the brains; chiefly thickening of the sheath, with diminution of the lumen; also atheromatous degeneration and deposits of chalk and pigment in the adventitia. In the case of chronic meningitis, hyaloid bodies were seen in the lumen of the capillaries, arterioles, and larger arteries. Ivanoff found that in the brains of aged dogs the presence of these hyaloid bodies was a normal appearance. This observation, according to Kostjurin, does not hold good for the brain of aged people. The bodies have been found in cases of jaundice, skin-burns, fever, and uræmia.

Sidney Martin, M.D.

5719. *Wertheimer and Others on the Respiratory Organs of the Spinal Cord.*—Since the publication of Legallois and Flourens' works, nearly all physiologists, notwithstanding the objections brought forward by Brown-Séquard, have admitted the existence of a respiratory centre in the medulla oblongata; consequently, the respiratory movements are arrested when the spinal cord is cut between the atlas and axis. Recent researches have shown that the cord, though severed from the medulla oblongata, can, under certain conditions, act as a respiratory centre. Rokitansky (*Wien. Med. Jahrsch.*, 1874), demonstrated this fact; he cut the cord between the two first cervical vertebræ in young rabbits previously poisoned with strychnine. During the convulsions, some respiratory movements took place. The most complete researches of this order have been made by Langendorff (*Archiv für Physiol.*, 1880). M. E. Wertheimer has recently made a communication to the Paris Biological Society, in which he states that, in a number of experiments made on adult dogs of all ages, sometimes with strychnine, sometimes without, he obtained the same results as Langendorff, and observed the respiratory movements. After the cervical spinal cord had been severed, these phenomena occurred in fully developed animals without using strychnine. It must be borne in mind that severing the cord not only cuts off the centres above the point of section, but in a certain time renders inert all the centres situated below it; but this result of the operation is less evident and more transitory in newly born animals, especially in young cats whose respiratory movements continue after they have been thus operated on, but even in them excitability of the cord does not last long; it must be stimulated, as Langendorff did, by giving a weak dose of strychnine. In order to obtain in adult animals more striking results, an interval of time should be allowed to elapse sufficient to enable the momentary nervous exhaustion to wear off, and no strychnine need be given. M. Wertheimer severed the spinal cord of an adult dog at eleven o'clock in the morning. Artificial respiration was carried on during some hours afterwards. The animal was carefully enveloped in cotton-wool, and kept warm. At five o'clock p.m. it was observed that general reflex action had returned in the limbs, and feeble respiratory movements were effected. Gradually, these became quicker and stronger. When five minutes had elapsed they were from 15 to 30 per second. The respirations grew feebler, therefore artificial respiration was effected, and afterwards definitively discontinued; the same phenomena were observed as those described above. M. Wertheimer concludes that respiratory movements return in the trunk of an adult dog when the spinal cord is cut between the atlas and axis, if sufficient time be allowed to elapse to allow the excitability of the organ to return. If at this moment artificial respiration be suspended, this excitability is stimulated by the blood strongly charged with carbonic acid. Thus it is demonstrated that the spinal cord is not only a centre of origin of the nerves innervating the respiratory muscles, but in a physiological sense a respiratory centre, influencing the rhythmic movements of these muscles. This centre can perform its function independently of reflex action, stimulated by the modification of the blood which nourishes it. The fact is of importance with reference to the general physiology of respiratory centres.

5720. *Déjérine on a Case of Suppression of Reflex Action of the Patella; the Spinal Cord remaining intact, also the Posterior Roots.*—It is well known that in a normal condition absence of reflex action in the patella very rarely happens, but is important as a symptom of sclerosis of the posterior columns at its onset. Nevertheless, it may be met with independently of any alteration of the spinal cord and the posterior roots. M. Déjérine has observed the following instance. The patient was tuberculous; reflex action in the patella was absent in both knees; during the two months he was in M. Déjérine's ward it was never detected; there was no motor nor sensory disturbance. At the necropsy, the lesions characteristic of pulmonary tuberculosis were very evident. The spinal cord and its membranes, the anterior and posterior nerve-roots, appeared normal to the naked eye. Microscopic examination of the posterior roots in the lumbar region proved them to be normal.

5721. *Déjérine and Vulpian on Radial Paralysis.*—MM. Déjérine and Vulpian have studied radial paralysis from compression. This form of paralysis generally lasts five or six months. The excitability of the nerve varies in different parts. Below the part compressed its excitability is not lessened, but rather slightly exaggerated by an electric current. Above the point compressed, the current does not increase its excitability. Muscular nutrition is not affected; only the long supinator muscle becomes atrophied. The muscle does not contract under the influence of a galvanic or a faradaic current. There is an evident tendency to nerve-degeneration, perhaps due to the superficial position of the radial branch innervating the muscle, which is thus more susceptible to compression. Patients suffering from paralysis from compression exhibit disturbed subjective sensibility. If the radial nerve be stimulated above the part compressed, the patient does not, as is usual, indicate painful sensations at the periphery. These notes were taken from five cases of radial paralysis from compression, one occurring during an attack of epilepsy; four from compression during sleep; and one from an injury to the arm. M. Déjérine believed that the lesions of radial paralysis are not so limited as is supposed. He tried to produce the same condition in animals. He isolated the sciatic nerve, and compressed it with forceps; but the results were unsatisfactory; the compression was either too intense or not sufficiently so, therefore the symptoms were either those of peripheral paralysis, atrophy, degeneration, or there were no results. M. Brown-Séquard was present at the meeting of the Paris Biological Society when this paper was read, and he said that he does not believe that radial paralysis presents any lesions but those due to peripheral stimulation, which has an inhibitory influence on the spinal cord. Perhaps necropsies would not give any clue; it is a question of purely dynamic phenomena. Nevertheless, after a certain time, inhibition produces alteration. M. Déjérine would have done better to produce radial paralysis, keeping the nerve in its normal surroundings, and not exposed.

5722. *Dupuy on the Effect of Thermic Stimulation of the Brain.*—Ten years ago, M. Brown-Séquard showed to the Paris Biological Society a dog in which he had burned, with a red-hot iron, the frontal and parietal convolutions. The animal exhibited, besides interesting vaso-motor symptoms, very pronounced paraplegia, suggesting meningeal myelitis rather than a cerebral lesion, which really existed. Dr. Ferrier some years ago showed, at the London Medical Society, a monkey with these convolutions destroyed, which Dr. Ferrier believed to contain the psycho-motor centres of one side of the body. This monkey had the right fore limb contracted on the opposite side. At the necropsy, some months later, it was observed that there was degeneration of the pyramidal fibres of the side corresponding to the cortical lesion. This degeneration began at the decussation of the pyramids, and invaded the two lateral columns of the spinal cord; but, on the left side, the one corresponding to the cortical lesion, the lesion did not extend lower than the cervical region. M. Babinsky has recently published notes of a case observed at the Salpetrière, in which degeneration, resulting from an area of softened brain-tissue in the *centrum ovale minus*, invaded the right and left side of the cord. There was muscular atrophy, but no lesion of the medullary cells nor of the nerve-roots. M. Dupuy states that in three dogs he had destroyed, by red-hot irons, the cortical substance reputed to contain the psycho-motor and psycho-sensory centres: the animals died between three and five days later, after exhibiting symptoms he had never observed to follow any other means of destroying convolutions. These animals were thrown into a prostrate condition from the onset of the operation; they rejected the smallest quantity of milk. At the necropsy, the cerebral substance in the two hemispheres comprised between the seat of the lesions and the decussation of the pyramids appeared normal to the naked eye, but the spinal cord below the pyramids was completely disorganised, as though there had been extensive capillary hæmorrhage which had reduced it to pulp.

W. VIGNAL.

5723. *Huss on Alcoholic Paralysis.*—In a paper in the *American Jour. of Med. Sciences* for April (abstracted in the *New York Med. Record*), Dr. H. Huss, of Albany, describes two cases of paralysis from the abuse of alcohol. He has also collected the recorded cases of alcoholic paralysis, and holds that it may be regarded as a special form of disease with the following symptoms. After a series of cerebral and gastric disturbances due to alcoholic poisoning, the disease proper commences with neuralgic pains and perverted sensations in the legs, which gradually extend to the upper extremity, and are accompanied at first by hyperæsthesia, later by anæsthesia, and in severe cases by retardation of the conduction of pain. Along with these symptoms appears a muscular weakness, which steadily increases to an extreme degree of paralysis, and is accompanied by rapid atrophy, and by great sensitiveness of the muscles to pressure and to passive motion. Both the sensory and the motor disturbances are symmetrically distributed, and the paralysis attacks especially the extensor muscles. In addition to these motor and sensory symptoms, there is also a decided degree of ataxia. The tendon-reflexes are abolished, and vaso-motor symptoms, such as œdema, congestion, &c., are usually present. Symptoms of mental disturbance are always present in the form of loss of memory, and in transient delirium. The lesion is, in all probability, a degeneration of the peripheral nerve-fibres and of the nerve-cells in the cerebral cortex, together with a chronic congestion or inflammation of the pia mater. This lesion well explains the symptoms, although it is certainly curious that alcohol should not attack the spinal cord, but only the highest and lowest parts of the nervous system, if one may so call the cortex of the brain and the terminal branches of the peripheral nerves.

5724. *Waugh on the Treatment of the Alcohol Habit.*—A paper on this subject was read by Dr. W. F. Waugh, of Philadelphia, at the last meeting of the American Medical Association. The following is a summary. The treatment of acute alcoholism is generally successful; but, except in a very few cases, the patient relapses into inebriety and dies a drunkard. The disease, however, is not incurable. The causes of relapse are: 1, previous disease which led to drink; 2, overwork, especially when combined with illness; 3, gastric catarrh, due to alcohol; 4, catarrh of the mouth, due to the same cause; 5, depression consequent on withdrawal of the stimulant. In the first and second classes, the recognition of the cause affords the indication for treatment. In the third class the remedies recommended are hot water with soda before meals; oxide of silver, oxide of zinc, or bismuth, following; and minute doses of ipecacuanha to restore the secretion of the digestive glands. In the fourth and fifth classes the use of cuca is recommended in the form of a masticatory, to obtain the local effect on the mouth, as well as the constitutional effect, in relieving the depression. The object is to substitute for the alcohol habit the harmless habit of chewing cuca. The food should be carefully regulated, and should at first consist of raw oysters, or beef with capsicum and vinegar, pickled tripe, or pigs' feet. If the patient have passed the point when he still desires to be cured, and be unwilling to make an effort, he should be put under restraint, preferably in an institution where he could be compelled to earn his livelihood, instead of spending his time in enervating idleness.

DERMATOLOGY.

RECENT PAPERS.

5725. Lesser.—Herpes Tonsurans. (*Deutsche Med. Wochensch.*, No. 6, 1886.)

5726. Tommasoli.—On the Nature of Ichthyosis. (*Lo Sperimentale;* and *La Medicina Contemp.*, January 1886.)

5727. Tyson.—On Universal Alopecia. (*Brit. Med. Jour.*, February 1886.)

Art. 5725. *Lesser on Herpes Tonsurans.*—Latterly there has been an epidemic of this disease in some parts of Germany; and at a recent meeting of the Leipsic Medical Society, Dr. E. Lesser gave his experience in connection with it (*Deutsche Med. Wochensch.*, No. 6). The custom of being shaved by a barber seems to be the means of spreading the disease. Suggesting that perhaps the mentagra, described by Roman medical writers and poets, is herpes tonsurans, Dr. Lesser says it is remarkable that Pliny asserts that this disease, affecting chiefly the chin, throat, breast, and hands, attacked only men of the higher classes, whilst women and slaves remained unaffected. Such men would naturally be subject to the disease, not only owing to their having the beard shaved or depilated, but also on account of a 'kissing mania' that appears to have raged at the time amongst men. At any rate, there is great similarity between syphilis and herpes tonsurans. The fungus enters deeply into the sheath of the hair-root, and causes inflammation. Hence, those parts of the body are mostly affected, that are covered with hair. When it attacks the hair of the head it is called kerion Celsi (kerion), and sycosis parasitaria when it attacks the beard. Sycosis parasitaria appears chiefly in two different forms; (1) formation of knots and larger infiltrations in the subcutaneous tissue, the skin remaining materially unchanged, though it may grow red with perhaps here and there a pustule; or (2) the skin being at once seriously affected, regular round swellings appear sharply distinguished from the normal surface. The surface of these swellings consists of moist granulation-tissue, strongly resembling syphilitic papulæ. Common herpes tonsurans is not dangerous; but in cases of sycosis parasitaria there is pretty general derangement; the act of eating is painful, and sleep is well-nigh impossible. In the treatment of mild cases Dr. Lesser used at first a 5 per cent. naphthol ointment, and latterly nearly exclusively 1 per cent. sublimate solution. With the latter the diseased places are touched twice a day. In a very few cases has he found any considerable irritation (acute eczema) to follow this treatment. In cases with more deeply seated inflammatory symptoms, in kerion Celsi, and particularly in sycosis parasitaria, Dr. Lesser has applied bandages with 5 per cent. carbolic oil with the most satisfactory results. From three to four weeks must elapse before a cure is effected, and in severe cases still longer periods. There are, however, few or no marks left on the face, and the hair grows again. He has also used Wilkinson's salve with good effect, applying in addition warm poultices in cases of extensive infiltration. He admits the efficacy of other methods, *e.g.* the use of chrysarobin, and bandages with 1 per cent. solution of acetic alum. But, prevention being better than cure, Dr. Lesser particularly cautions against the indiscriminate use of towels, and advises people to shave themselves.

John Elliott.

5726. *Tommasoli on the Nature of Ichthyosis.*—Although the clinical characters of ichthyosis are so well known and described as to render further description superfluous, much difference of opinion prevails as to the nature of the alteration. Some observers still hold with Rokitansky, Bärensprung, and Simon, that it depends on diminished epithelial desquamation, due to altered secretion of the glands, and their degeneration, or to the abnormal presence in the skin of special substances, as oxide of iron, salicylic acid, or certain calcareous salts. It appears more probable that ichthyosis is the result of too rapid epithelial corneification, or of an inflammatory hypertrophy of the epithelial layer, the histological type being completely preserved; or of a local anomaly of the nutrition of the skin, especially of the epidermic and fatty substance, with superabundance of the epithelial cement; or of a peripheral nerve-alteration (atrophic degenerative neuritis); or it may be due to a contagion as yet unknown. Or, again, it may be due to disease depending on a morbid predisposition of the skin, or to an extraordinary corneal formation. As a consequence of these theories, ichthyosis is either always congenital and hereditary (Lesser and Kaposi), or congenital and sometimes hereditary (Cazenove and Ferrari), or perhaps neither congenital nor hereditary (Unna). The author asks, which of these theories is the most probable? The possibility of intra-uterine inflammatory processes, advanced by Auspitz as the cause of ichthyosis, is not demonstrated. Nor is the opinion of Leloir more certain, since it is not yet proved whether the nerve-lesions met with are the cause or the effect of the disease. Unna's theory also is so far unproven. Tommasoli regards ichthyosis as a disease of which the most salient and perhaps the only anatomical change is thickening of the corneal layer, to produce which there must be some cause which operates slowly on the Malpighian cells, and which, by disturbing fatally their vital activity, lead to their corneification. Ichthyosis, therefore, is a disease of the epidermis, consisting in a thickening of its most external layer. The causes which produce it are undetermined; but there must be some agent which by a slow and gentle action on the cutaneous epithelial system leads to a persistent tendency to corneification. These causes are multiple, intra- and extra-uterine, internal and external. Ichthyosis is sometimes hereditary, sometimes acquired; often congenital, and most often is the sum of the congenital predisposition coupled to the acquired influences. Because of the different causes which produce it, in ichthyosis sometimes a symptomatic improvement only is possible, sometimes a radical cure is possible; and the secret of this possible cure is in the modification of the vital energy of the epithelial cells, induced either by salicylic acid, resorcin, potash, or other remedies of similar action.

G. D'ARCY ADAMS, M.D.

5727. *Tyson on Universal Alopecia.*—In the *Brit. Med. Jour.*, February 1886, p. 345, Dr. W. J. Tyson describes three cases of universal alopecia, in support of the neurotic origin of this disease. The affection began in the scalp, and spread rapidly until the whole of the hair of the body was lost. The patients were all adults, though young, and the starting-point could be traced to a neurotic cause. The prognosis in all of them was bad, and seemed worse as age advanced. The ordinary class of cases of alopecia areata contrast with these, in that they commence in youth, in scattered bald patches on the scalp, and the disease is confined to the scalp. In these cases also the prognosis is good, the complaint seldom lasting more than a twelvemonth.

RICHARD NEALE, M.D.

REVIEWS.

ARTICLE 5728.

Dictionary of Practical Surgery. By various British Hospital Surgeons. Edited by CHRISTOPHER HEATH, F.R.C.S., Holme Professor of Clinical Surgery in University College, London; Surgeon to University College Hospital, &c. London: Smith, Elder, & Co. 1886.

THIS work has been looked for with more than usual interest, and has appeared within two years of the time of the first planning of it; and this speaks highly for the energy of the editor and those associated with him. Two handsome large octavo volumes constitute the work, and these volumes contain between them eighteen hundred and fifty-four pages of rather small but clearly printed matter in double column; and, as there are no illustrations, it is evident that the dictionary contains a very large amount of writing. There are no fewer than one hundred and sixteen different contributors, most of them well known to surgery. Moreover, most of them are identified with the subjects upon which they have written, and it would be difficult to find authors more capable of giving an authoritative opinion upon the different matters to which their names are appended. This in itself must make the dictionary a standard work of reference.

Such a work could not be properly undertaken by any single individual, and the modern plan of associating many authors in works of general scope has undoubted advantages. A writer must tire with labour of which he can hardly see the end, and which he must feel, if conscientious, to be not altogether within his powers or his experience; and his readers cannot help feeling the inequality of such a work. Mr. Heath has selected writers not altogether connected with London hospitals, though naturally the larger number are on the staffs of the various metropolitan hospitals. Still there are more than half-a-dozen who do not appear to have hospital appointments, and we are glad to see that Australia and India are represented.

The subjects are arranged alphabetically, but, as these must necessarily overlap, a copious index is provided at the end of the work. This occupies fifty pages of double column, and when it has been found convenient to group together a series of diseases of one organ—as, for instance, of the breast—cross references have been given, the name of the separate article referred to being printed in small capitals. Each subject is treated, as far as possible, in the following order—1, cause; 2, pathology; 3, symptoms and diagnosis; 4, treatment; 5, prognosis—and the articles show an uniformity in plan which is convenient to any one referring to the work for information. The type is very clear, and the paper pleasant to look at, and it will be an important feature in the book that the volumes are really well bound, and stand open comfortably when being looked into, not requiring violence to make them open wide, and not shutting up when they are wanted to lie open for reference. These are technical features in a publication, but they are of very practical importance.

We have considered these technical points first, and if we now look at the subject-matter to a limited extent, we shall find the work very thorough. It is certainly difficult to find that any important matters included in surgery have been omitted, though some omissions must almost necessarily occur, and will, no doubt, be supplied when they have been pointed out. We may help the editor by drawing attention to the absence, so far as we can learn from a reference to the main part of the work and the index, of any account of branchial fistulæ, or of dermoid cysts of the face and neck. Mention is made of dermoid cysts of the orbit; but these are evidently the more deeply seated ones, for they are spoken of by Mr. Lawson as extremely rare, and this hardly accords with our own experience as regards the margins of the orbit. The articles are very carefully written, and are clear as well as thorough; and when we notice that the editor has contributed articles upon diseases of the jaws, operations on the jaws, aneurysm, and abdominal surgery, it is evident that, if other authors are as appropriately selected, the dictionary must be very admirably adapted for a standard work of reference. A few of these selections may be noticed, and it will be seen that the editor has exercised very judiciously the powers which he possessed. Mr. Watson Cheyne takes the subjects of inflammation, antiseptic surgery, and antiseptics; Sir William Mac Cormac, gunshot wounds and sabre and bayonet wounds; Mr. Sampson Gamgee, wounds, and special articles on the treatment of wounds; Mr. Berkeley Hill, diseases of the bladder and urethra, stricture, operations on the urethra, &c.; Dr. Gowers, pseudo-hypertrophic muscular paralysis; Mr. Jonathan Hutchinson, syphilis; Dr. Stephen Mackenzie, filaria and chyluria; Mr. R. W. Parker, surgical diseases of childhood; Mr. Edmund Owen, some of the deformities of early life; Sir Henry Thompson, tumours of the bladder; Mr. Cadge, lithotomy; Mr. Crosse, urinary calculi; and Mr. John Wood, ectopia vesicæ and the radical cure of hernia. Besides these, special organs are discussed by those who have paid special attention to the subjects considered; the female organs of generation by Mr. Alban Doran and Mr. Knowsley Thornton; the eye by Mr. Tweedy, Mr. Lawson, Mr. Brudenell Carter, Mr. Power, Dr. Swanzy, and Mr. Priestley Smith; the throat by Dr. Felix Semon; the ear by Mr. Cumberbatch and Dr. Laidlaw Purves; the skin by Dr. Liveing, Mr. Malcolm Morris, Dr. Sangster; the teeth by Mr. Tomes. This list will be the best evidence of the value of the dictionary for reference in surgical diseases. And where surgeons have taken up what appear to be new lines, the writing is very clear and good. Mr. Howard Marsh gives very practical articles upon the various fractures as well as upon hip-joint disease, and the other equally important subject of dislocations is ably treated by Mr. Clement Lucas in numerous articles. Operations are described under different heads according to the part operated upon, but there is a good general article on amputations by Professor Stokes, who also takes the subject of special amputations through the limbs and at the joints. Railway injuries are given by Mr. Bond; and Mr. Page discusses the injuries of the back and spine, and disorders of vision arising from them. Sir James Paget contributes only one short article on old age, but, like his writings in general, it is suggestive and full of valuable remarks, the result of the experience of long and useful life. This paper will no doubt be read by all, and is valuable not only for itself, but as showing the aim and even the style of most of the articles in the work—not statistical, but expressing clearly the experience and opinions of the writer. There is another article which will probably be looked at with interest, inasmuch as the advances made in our knowledge of the subject recently are great, though time is wanted to show whether this knowledge is leading to permanent and practical results. We refer to hydrophobia; and here we find that events have moved rapidly, and the article was probably printed before M. Pasteur's observations on the prophylaxis against hydrophobia were made known. These, and some account of the symptoms of rabies in the dog, are wanted in any new issue of the work.

It is, of course, impossible to review any number of the articles in this large work; but we have said enough to show that, so far as we have been able to judge by a careful perusal of many of them, many practitioners will find the dictionary of great use, and thoroughly expressive of the opinions and experiences of British surgeons, scientific as well as practical, of the present day. And the editor is to be heartily congratulated upon his energy and success; and it is all the more a matter for congratulation, inasmuch as his work has been interrupted by illness, which his friends will be glad to find is past and gone. The dictionary will stand undoubtedly as one of the most trustworthy works of reference published in modern times upon practical surgery, and, side by side with its companion dictionary of medicine, will form a valuable and almost essential occupant of the practitioner's library.

There is one addition which, we think, would increase greatly the value of the work as one of reference, and it is as such that the dictionary will be largely used. The reader would be glad to find at the end of the various articles some list of works upon the subject treated of—works which the author thinks the most useful for further reference, inasmuch as the articles themselves cannot be looked upon as at all exhaustive. These references might be limited in number, and put in small type, and would prove a boon to the practitioner who wants to extend his knowledge of any particular subject, or to clear up points which are perhaps not discussed in these papers.

The alphabetical arrangement of the subjects separates this work from the large standard text-books on surgery, and makes this essentially a work of ready reference; and as we have just examined the *Manual of Surgery* edited by Mr. Treves, we find one only a complement to the other. The manual is a comparatively small work, which does not take in the questions of pathology and operative surgery, which are fully considered here; and the dictionary is no doubt more likely to be useful to the practitioner in those cases which puzzle him; but there seems decidedly to be room for a good dictionary or text-book on clinical surgery, as well as the works recently issued and here referred to. Clinical surgery would bear to be more effectually handled both in the wards and in surgical literature than it has generally been, and we may hope to see the subject more effectively taught than it has been usually in our metropolitan as well as in provincial medical schools. Hitherto it has been no credit to British surgery, and it is only a matter of surprise that the profession generally have obtained so much practical knowledge with so little organised help in their student work.

The publishers, as well as the authors and editor, must be congratulated upon the excellence of this dictionary of practical surgery, which will rank highly among the surgical publications of the time. It deserves success, and will apparently ensure it.

W. W. Wagstaffe.

Article 5729.

Materia Medica and Therapeutics. By Charles D. F. Phillips, M.D., M.R.C.P., &c., late Lecturer on Materia Medica and Therapeutics at the Westminster Hospital Medical School. London: J. & A. Churchill. 1886.

The present volume, the author tells us, is a revised, enlarged, and almost re-written edition of his work on *The Vegetable Kingdom*, and, with his book on *Inorganic Substances*, published in 1882, forms a complete treatise on Materia Medica. The greater part of the book was in print before the last edition of the *Pharmacopœia* was published, and this may account for many drugs being described as 'not officinal' which have now received official sanction. The additions and alterations thereby rendered necessary are dealt with in a summary manner at the end of the book.

Taken as a whole, the volume before us consists of a careful and critical review of the most authoritative researches on the physiological and therapeutical effects of medicinal agents derived from the vegetable and animal kingdoms, as well as of bodies such as chloral-hydrate, chloroform, &c., which Dr. Phillips describes as 'organic bodies.' The result of confronting various views is sometimes to leave the reader in doubt as to which is to be preferred, for Dr. Phillips does not always show himself prepared to intervene with an authoritative statement. Take, for example, the use of opium and its alkaloids in kidney-disease. On one page mention is made of the generally received view that opiates are to be avoided, or at any rate given with caution in cases of kidney-disease, but a few pages later he quotes some cases of albuminuria treated by Loomis and Austin Flint, by means of subcutaneous injections of morphia, in which apparently good results were obtained. He alludes to the use of opium as a remedy for sea-sickness, and suggests an injection of twenty to thirty minims of laudanum, *per rectum*, as a 'common and useful prescription.' This, however, could evidently only be carried out in the retirement of a private cabin, so that the less favoured voyagers would probably prefer a hypodermic injection. Nitroglycerine or glonoin is described rather summarily as 'resulting from the action of nitric acid on glycerin,' but we doubt whether these instructions would enable anyone to manufacture the article; perhaps that is why the addition of sulphuric acid is omitted. Moreover, no mention is made except in the list at the end of the book of the chocolate tablets dear to Mr. Martindale. In looking over the list of diseases in the treatment of which such a drug as sulphate of quinine *may* be used, one is struck by their number and variety; indeed, the difficulty is to think of a disease in which it may *not* be used. From insanity to laryngismus stridulus, and from chorea to erythema nodosum, the drug appears to have been tried, though often, it must be confessed, with negative results. It seems rather superfluous to allude to its use in a host of complaints in which its administration has been unattended with any benefit except of the most fortuitous description. Other drugs of such anodyne powers as arnica are exhaustively discussed, and their physiological action very patiently detailed; although arnica does not appear to be used except as a lotion for bruises. There is a very interesting description of curare, the South American arrow-poison, much utilised in the laboratory of experimental physiology. It is disappointing to find that its therapeutic applications do not correspond to its lethal power.

The pages devoted to tobacco and alcohol are interesting, if only as showing what conflicting statements have been made in respect of both of them by competent observers. It is not easy to see what the author's opinion is on the subject of smoking, but he declares himself a believer in the general but not routine use of alcohol in disease. In *delirium tremens* he would not withhold it, and even expresses a belief that, as a rule, too little is given. In future, the same cogent reasons will be required for the use of alcohol as for any other drug; the more so as the use of this one in particular is apt to be followed by disastrous consequences from which the others are to a large extent exempt.

The work is replete with information and the references are very numerous. Altogether, it will be found a very useful addition to the medical library, but is better fitted for the use of the practitioner than of the student. It is clearly printed in large type on good paper, and this may reconcile the reader to the rather unwieldy size of the volume.

ARTICLE 5730.

Materia Medica and Therapeutics. By J. MITCHELL BRUCE, M.A., M.D., F.R.C.P., Physician and Lecturer on Materia Medica and Therapeutics, Charing Cross Hospital, &c. Third Edition. London: Cassell & Co. 1886.

THE third edition of this popular little manual in its familiar red cover has now appeared; and, although much has been added, partly to bring the work into accordance with the last edition of the *Pharmacopœia*, and partly to afford more detailed information respecting the chemical and pharmaceutical relations of the individual drugs, it is satisfactory to note that the volume has not been materially increased in size, some thirty additional pages having sufficed. The work is not intended merely as an aid for examination purposes, and the unofficial drugs are treated with all the respect due to the reputation which they may respectively have acquired. At the same time the author adheres pretty closely to the text, and does not improve on the methods contained in the *Pharmacopœia*. For example, he contents himself with the official designation of the tabellæ nitroglycerini, without mentioning the commoner and probably the better mode of administration, in the form of the 1 per cent. solution. The plants, &c., are tabulated, so as to meet every possible requirement on the part of the examining boards; but it is to be hoped that the absurd practice of asking for lists of seeds, barks, &c., contained in the *Pharmacopœia*, has now been abandoned in favour of a more rational system of examination.

The last hundred and fifty pages are devoted to the discussion of the principles and practice of general therapeutics; and here the author's clearness of style appears to advantage, although the elaborate tables which accompany and complete every section are of doubtful value, especially when the result is, for instance, to bring together nitrite of amyl and nitro-muriatic acid as 'glycogenic stimulants.' The information is practical throughout, and, while brevity has been studied, it has not been at the cost of accuracy or clearness. The convenient size of this book, characteristic of the series, has only been attained in the present instance by means of a rather small type run closely together, which is a disadvantage in works that may require to be read by artificial light.

ARTICLE 5731.

Annuaire de Thérapeutique, de Matière Médicale, de Pharmacie, et d'Hygiène pour 1886. Par Dr. BOUCHARDAT, Professeur honoraire à la Faculté de Médecine de Paris. Paris: Felix Alcan.

THIS excellent little work, which is now in its forty-sixth year, is more than usually replete with interest, probably owing to the abundance of new medicinal agents, due to the zeal of the chemists and physiologists of different countries. An epitome is given of all that is known as to the physiological effect and therapeutic uses of drugs of recent introduction; and the information is given in a comprehensive but succinct manner, so that the text is easy reading, both on account of its brevity and of its clearness. Notwithstanding the free interchange of ideas between the two nations, there is always something to be learned from a perusal of a work of this kind, and we can cordially recommend it to those whose knowledge of French will allow their reading it without undue effort. ALFRED S. GUBB.

ARTICLE 5732.

A Manual of Practical Therapeutics, considered with reference to Articles of the Materia Medica. By EDWARD JOHN WARING, C.I.E., M.D., F.R.C.P., Surgeon-Major (Retired) in Her Majesty's Indian Army. Edited by DUDLEY W. BUXTON, M.D., B.S.Lond., M.R.C.P., &c. Fourth Edition. London: J. & A. Churchill. 1886.

THE fourth edition of this work has just been issued, and is an improvement on the previous editions. Much obsolete matter has been cut out, and many new remedies have been added. The author has been aided in his work by Dr. Buxton, to whom he is indebted for an extension of the articles on Mineral Waters, Malt, Pepsin, and Peptonised Foods, Salicylic Acid and the Salicylates, Nitro-Glycerine, the Nitrites and Sulphites, &c. The drugs are taken in alphabetical order; with each is given an account of its source and its characteristics, together with its medicinal properties and action. Then follows an account of its therapeutic uses, with the manner in which it acts in various diseases. An index of diseases is given, and the various drugs that have been found useful in each disease are enumerated, with an asterisk (*) placed against those most recommended. The work is most useful for medical men in practice, who have no time to read up a number of books when they meet with a case in which they may require a few practical hints, and especially to men who are abroad and unable to make use of any library. On meeting with a case of a given disease, one can look up the treatment that is most suitable, together with a short account of the opinions of those authorities most acquainted with the disease in question, and the action of the various drugs that have been found most successful. RICHARD NEALE, M.D.

NEW PREPARATIONS.

ARTICLE 5733.

MESSRS. FLETCHER, FLETCHER, & STEVENSON'S NEW PREPARATIONS.

MESSRS. FLETCHER, FLETCHER, & STEVENSON, of the North London Chemical Works, have forwarded us samples of their Extractum Cinchonæ Liquidum (De Vry) and of their crystallised muriate of cucaine. The liquid extract of cinchona, which contains five grains of the mixed alkaloids of the finest red bark in every 100 minims, is an elegant and clear preparation eminently suitable and convenient for administration in those cases where the tonic properties of the bark itself are desired. It is prepared *in vacuo* in order that its qualities may not be deteriorated by prolonged heating, and is miscible with water in every proportion without any turbidity.

The muriate of cucaine is in delicate acicular crystals, and is extremely soluble in water, yielding a perfectly clear solution. Now that the price of this valuable medicinal agent has come down to a reasonable figure, the demand for it will doubtless increase to an extent commensurate with its cheapness and utility.

ARTICLE 5734.

SOLUTION OF COD-LIVER OIL IN MALT.

WE have received specimens of the Kepler Solution of Cod-liver Oil in Malt, for which novelty, originality, and many advantages over any form yet offered for administering cod-liver oil are claimed. The following plates are exact reproductions from photomicrographs magnified 400 diameters. This form of cod-liver oil possesses the advantage over emulsions, in that it is completely dissolved in Kepler Malt Extract.

Figure I., on which the large segments appear, is an exact copy of one of the best known emulsions of cod-liver oil. In this case, the digestive efforts to absorb the oil would tend to derange digestion greatly.

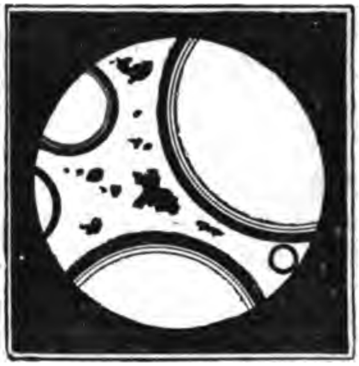

FIGURE I.—A well-known Emulsion of Cod-liver Oil magnified 400 diameters.

Figure II. represents the globules of what is alleged to be the most finely subdivided cod-liver oil obtainable in emulsion. It was copied from an emulsion of cod-liver oil and malt. The larger circlets represent the cod-liver oil-globules, the small ones the milk.

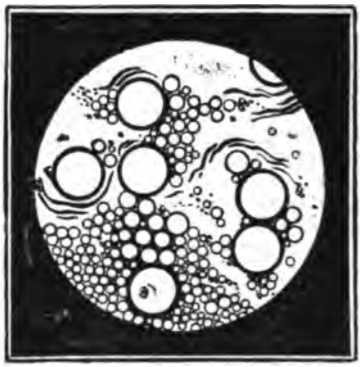

FIGURE II.—An Emulsion of Cod-liver Oil and Milk now in the market, magnified 400 diameters.

Figure III. shows the smallest spherules, which are made from a good specimen of milk.

Figure IV., with the vacant outlined field, characterised by a complete absence of any oil-globules whatever, is the exact counterpart of all that can be seen when a drop of the Kepler solution of cod-liver oil in extract of malt is examined under the microscope with a high magnifying power.

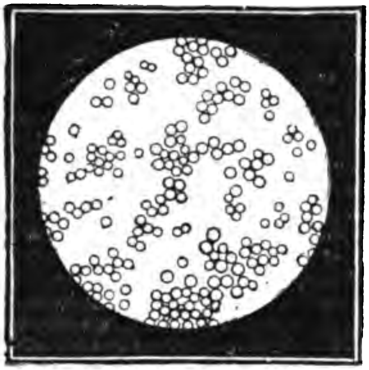

Figure III.—A specimen of Pure Milk magnified 400 diameters.

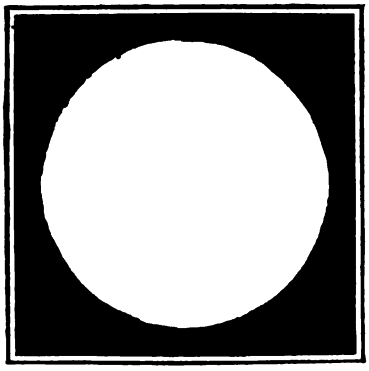

Figure IV.—Kepler Solution of Cod-liver Oil in Extract of Malt, perfectly transparent, no oil-globules visible, magnified 400 diameters.

It is believed that the oil is molecularly incorporated into the malt, and that no emulsion of cod-liver oil presents any of the distinctive features of the Kepler solution. This point was the subject of a discussion at the Chemical Society, introduced by a paper read by Mr. Godwin Clayton, which was participated in by Dr. Dupré and others, who recognised it as a perfect solution.

In making the test of the Kepler Solution, that at the surface should not be taken. It is important to use only perfectly dry glass rods and glasses.

The solution contains one part of oil to two parts of Kepler malt extract; and its merits rest in its being most palatable, easily digested, and more highly assimilable than any emulsion of cod-liver oil.

Article 5735.

PURE TEREBENE.

We have received from Messrs. Burroughs, Wellcome, & Co. a specimen bottle containing their pure terebene. The administration of the drug is greatly facilitated by the 'dropper' which accompanies the bottle, by means of which it is easy to regulate to a nicety the amount employed—a very important consideration with medicines like pure terebene, which may often have to be carried about by the patient in order to have the remedy at hand when occasion arises for its use. As pure terebene is very volatile, the duplicate cork (which is intended to replace the one destroyed in opening the bottle) is a very useful addition.

Article 5736.

GILSON'S CREAM OF COD-LIVER OIL.

We have examined the sample of Messrs. Gilson & Co.'s 'Cream of Cod-liver Oil' sent to us, and it would seem to be a very good specimen of the better class emulsion. Under the microscope fat globules of every size are to be seen, so that the oil cannot properly be held to be in solution. It is said to be prepared with a new variety of pancreatic albumen, which is reported to retain at least 75 per cent. of the oil in the form of emulsion, besides agreeably disguising to some extent the smell and taste of this valuable but anti-gastronomic substance. We have no doubt it will be found of use in the treatment of diseases where cod-liver oil is indicated, and where it is desired to improve on the crude article.

Article 5737.

UNSWEETENED BRANDY.

We have had submitted to us some samples of the unsweetened brandy shipped by John S. Exshaw & Co., of Bordeaux, which is entirely free from added sugar. Dr. H. C. Bartlett, who has recently carefully tested this brandy for free sugar, found no trace of it. Dr. Bartlett writes :—'I find the following results :—

Specific gravity of the brandy ...	932·23	
Specific gravity of distillate	932·00	
Percentage of proof spirit	89·85	10·15 u.p.
Total extractive matters	2·70 in 2,000 parts	
Equal percentage extract	·135	

'The brandy was most carefully tested for free sugar, and none was found. The volatile ethers forming the bouquet and delicate flavour are so pronounced as to prove the age and quality, which is not only of the highest class, but from the extremely small proportion of the extractive matter, and freedom from sugar, renders this very fine brandy especially suitable for invalids and those who from gouty tendencies cannot with impunity endure saccharine in wines or spirits.' The peculiar quality pointed out by Dr. Bartlett will recommend this unsweetened brandy to medical men, who find it necessary to order the use of this stimulant in cases where the ingestion of sugar is undesirable. Exshaw's Brandy has a large sale in the Indian Colonies, where it has been thoroughly established for more than half a century. It may be obtained of all wine merchants, and wholesale of Messrs. Rutherford & Co., Old Trinity House, Water Lane, E.C., London.

Food for the Poor.—In the *Lancet*, April 1886, p. 769, Miss Emma Maur suggests that the poor of London should try the Indian corn-meal—the 'polenta' of Italy, the 'mamaliga' of Roumania. In Roumania, the peasants content themselves with mamaliga, which is prepared by stirring Indian meal into boiling water until it becomes a very thick batter; it is then poured out on to a wooden platter, when it becomes solid. It is eaten hot, alone or with an onion, or a dried fish, or 'tourt' (thick sour milk), or with a slice of goat's milk cheese. It is rare for peasants in Roumania to taste bread, yet they are strong and healthy.

NEW INVENTIONS.

Article 5738.

A NEW ACUOMETER.

This apparatus differs from similar instruments in two particulars. It is much more simple, and indicates directly the proportional intensity of sound. It is composed of a sound producer, consisting of a small tuning-fork giving the normal *la* (870 vibrations), kept at work by an electric magnet, placed according to the arrangement adopted by M. Mercadier. A single element, Leclanché, is sufficient to keep it in action. A telephone is placed in communication with the two ends of the thread forming the coil of the electro-magnet. The telephone is thus traversed by the *extra courant de rupture* (extra interrupted current) at each vibration of the tuning-fork. The tension of this extra current is much greater than that of the battery, and causes the telephone to vibrate intensely in unison with the tuning-fork. In order to lessen the intensity of the sound in the telephone, it is necessary to pass a current along a glass tube full of water, by plunging a metallic stem into the water; the length of the column of water traversed by the current is increased until the intensity of the sound is reduced to its minimum and is scarcely perceptible. The strength of the extra current, and consequently the intensity of the sound, is in inverse proportion to the length of the column of water of the graduator which lessens the sound. The length of the water-column gives the degree of the auditory sense tested.

MISCELLANY.

To Destroy Warts.—Take the rind of two lemons, and steep them during eight days in 125 grammes of concentrated vinegar. Paint the warts over with this solution night and morning. Dr. Vidal recommends covering the warts with a piece of flannel spread with soft soap. In about fifteen days, the warts become soft and are easily removed by scraping.

The Cholera in Spain in 1885.—*La Gaceta* publishes (April 7 to May 1) the statistics of the epidemic of cholera which prevailed in Spain last year. In all, 335,986 cases are recorded, and of these 119,493 died. The provinces in which most cases occurred are in alphabetical order:—Albacete, population 130,921, cases 8,236, deaths 3,244; Alicante, population 311,425, cases 13,977, deaths 5,645; Almeria, population 242,213, cases 9,660, deaths 2,566; Barcelona, population 541,211, cases 6,302, deaths 2,915; Castellon, population 214,686, cases 16,753, deaths 6,436; Cuenca, population 137,644, cases 10,003, deaths 3,459; Granada, population 364,568, cases 24,736, deaths 10,285; Madrid, population 477,712, cases 8,584, deaths 3,559; Murcia, population 420,229, cases 17,749, deaths 7,376; Navarre, population 161,626, cases 12,895, deaths 3,161; Tarragona, population 196,448, cases 8,740, deaths 2,536; Ternel, population 171,312, cases 21,909, deaths 6,860; Toledo, population 170,857, cases 10,308, deaths 3,972; Valencia, population 630,321, cases 45,515, deaths 21,612; Valladolid, population 157,019, cases 7,578, deaths 2,603; Zaragoza, population 348,361, cases 54,943, deaths 12,788.

Formation of Crystals in the Animal Organism. At a recent meeting of the Biological Society of Paris, M. Galippe stated that the existing theories for explaining the formation of crystals in the animal economy do not appear satisfactory to him. The probability that micro-organisms have some influence on the formation of these salts presented itself to his mind. M. Galippe began his researches by studying the dental tartar, and has already arrived at important results, which he has made known to the Société de Biologie. The dental tartar always contains micro-organisms. These were sown and cultivated with constantly identical results. M. Galippe concludes that probably these micro-organisms are factors in the formation of salivary calculi. In the centre of these calculi there is always some foreign body, such as a hair or a fish-bone. M. Galippe does not believe that the foreign body is a centre of crystallisation, but that micro-organisms are carried along with it into the salivary canal; there, by chemical action, they become agents in the formation of a deposit of mineral salt. M. Galippe also met with micro-organisms in biliary and vesical calculi. In reply to a question from M. Brown-Séquard as to why M. Galippe considered these micro-organisms to be factors in the formation of the calculi, rather than supposing them to be simply imbedded, he replied that it had been ascertained some time since that micro-organisms have a chemical action. It is by their influence that nitrogen is fixed in the earth. There are other micro-organisms which change sulphates into sulphides. M. Laborde asked if these micro-organisms had been found living. M. Galippe replied that he had produced artificial cultivation.

'Divine Ointment.'—About seven or eight years ago a certain A. J. Ivanoff, by trade a shoemaker, invented a 'divine and curative' lead ointment, which he prepared from olive-oil collected by him from the lamps burning before various wonder-making holy wooden images (*ikonas*). In view of his using such a powerfully acting olive-oil, he was allowed to sell his poisonous mash at the price eight times higher than that of an officinal lead ointment. Lately, the editor of the *Rüssky Satiritchesky Listok* ('Russian Comic Leaflet') has published a caricature picturing the said Ivanoff in the course of preparing an ointment from 10 lbs. of impudence, 15 lbs. of ignorance, 1 lb. of stupidity, and 2 lbs. of imposture. The sensitive cobbler took offence as well as proceedings against the editor of the *Listok*, and obtained damages amounting to 25 roubles = £2 10*s*. It is positively asserted that Ivanoff's 'divine' mash finds favour with customers amongst the very highest circles in St. Petersburg.

The Condition of the Insane in Bulgaria.—In a Bulgarian hygienic periodical called *Zdravië*, and edited and published in Varna by Dr. B. A. Oks, the important question of the care of the insane is ably discussed in an editorial article (May 1, 1886, p. 1). To judge from that article, as well as from a communication made by Dr. J. Bradel, of Varna, at a meeting of the Bülgarskoto Knijevno Drujestvo [Bulgarian Scientific Association] (*Zdravië*, Nos. 16 and 17, 1885), the condition of lunatics in Bulgaria is truly appalling. There are about 500 lunatics in that country (with 2,000,000 inhabitants). Only about seventy or eighty of them are sheltered at the insane wards of the Varna Hospital. The remaining 420 or 430 are either starved out, tethered by chains at monasteries and churches, in close, cold, damp, airless holes, or are wandering at large, living and acting according to their insane ideas and feelings. The most dangerous and violent—that is, those who are kept in chains like dogs, are regarded by the public as nothing short of the criminal or depraved persons, and accordingly are 'quieted' by starvation and merciless beating. The lunatics of a milder sort—who enjoy freedom—wander about naked and barefooted and covered with parasites; they are maltreated by impostors and charlatans, who have no knowledge whatever of mental diseases, and used to be a target for mockery and amusement of their healthy neighbours. Both Drs. Oks and Bradel point out what a magnificent 'sanitary fund' exists in Bulgaria, where numerous and useless monasteries, with large yet untaxed property abound. Both of the authors also make an appeal to private philanthropy, which could supplement the sanitary fund gathered from the source of taxation indicated.

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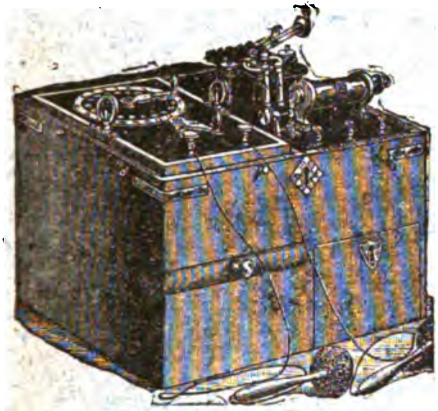

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EDITED BY ERNEST HART

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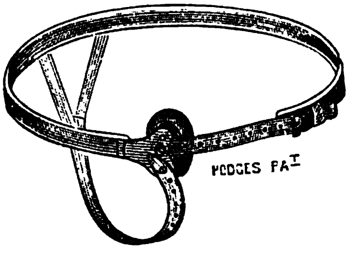

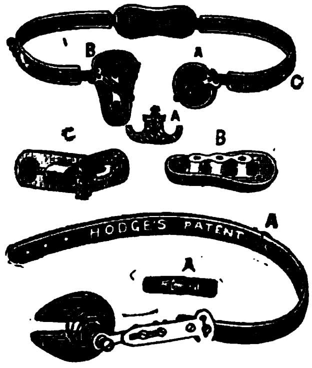

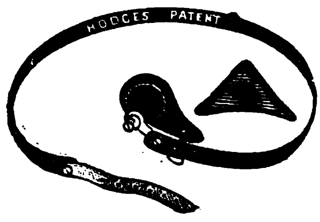

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The London 1886
Medical Record.

ARTICLE 5739.

VELĬAMINOFF, BOGAËVSKY, AND OTHERS, ON GASTROSTOMY FOR STRICTURE OF THE ŒSOPHAGUS.

IN the *Khirurgitchesky Vestnik*, May and June 1885, p. 366, Dr. N. A. Velĭaminoff (the editor) describes six cases of gastrostomy performed by him for malignant stricture of the gullet during the period 1880–84.

One of the cases occurred in a peasant woman, aged 58, who was admitted to Professor Reyher's clinic with symptoms of one year's standing. At the time of admission she was able to swallow only fluids, and that with difficulty. The stricture was found impassable to bougies or sounds. The patient did not give her consent to operative interference until a month later, when absolute obstruction and extreme exhaustion had set in. A Fenger's incision was made under narcosis, and the stomach was opened immediately after it had been sewn to the abdominal wall. On the second day, feeding through the fistula was commenced, but proved a failure, since the stomach did not retain any food, everything returning just after the introduction. The sutures were removed on the fourth, fifth, and sixth days; the skin between them and around the fistula sloughed away. On the eighth day, the woman died from hypostatic pneumonia and collapse. At the necropsy no peritonitis was found, but there were present intense gastro-intestinal catarrh, marked thinning of the gastro-intestinal walls, old pneumonic foci, and hypostasis.

A second patient, a retired soldier, aged 52, was brought to the clinic in a highly exhausted state, with absolute stricture in the middle third of the œsophagus. Five days later, an operation (as in the former case) was performed; the liver first presented itself in the wound, and greatly interfered with drawing the stomach to the abdominal wall. A fistula was at once established, some milk and wine being introduced immediately, but only to be ejected the next moment. Generally, feeding proved an utter failure. On the third day the patient died from exhaustion. No peritonitis was found.

A third case (briefly mentioned in the LONDON MEDICAL RECORD, July 1884, p. 283) was that of a railway guard, aged 50, with a stricture in the middle third of the œsophagus, and with symptoms of three months' duration. He could swallow fluids only with difficulty, but his general strength was still satisfactory. The operation was performed this time in two stages; the first lasting thirty-five minutes, and the second being done on the fourth day. A thin long drainage-tube was introduced into the stomach, and passed through the stricture up to the patient's mouth. It was gradually replaced by similar tubes of gradually increasing size, the largest being as thick as a finger of an adult man. The patient took in his food through both the tube and the mouth. He got up from the third day after the operation. His general health strikingly improved; during the third and fourth weeks he gained in weight five pounds. Two months after gastrostomy, the patient resumed his occupation. He lived eight months, death following from cancer spreading to a bronchus.

A fourth patient, an artisan, aged 55, entered the Nikolaëvsky Hospital in a very weak state, with cancer of the lower third of the gullet, the symptoms being of a month's standing. He was still able to fairly easily swallow liquid and porridge-like food. On the next day after his admission, the first stage of Fenger's gastrostomy was performed, the operation lasting thirty minutes. Three days later, the stomach was opened, a tube (as in the preceding case) was introduced, and the sutures were removed. For four days, feeding went on satisfactorily; but then the stomach became intolerant of food, and on the ninth day the patient died from hypostatic pneumonia. No peritonitis, but a good firm adhesion around the fistula, was found.

A fifth patient, a merchant, aged 51, was sent to the Maximilianovsky Hospital for operation, in an extremely exhausted condition, with malignant stricture of the lower third of the œsophagus, and with symptoms of a year's duration. The operation (without anæsthetics) was finished at a sitting, some milk and wine being introduced immediately. From the second day he took in two glassfuls of beef-tea, with an egg, and wine, every three hours. A marked subjective improvement ensued, the patient becoming cheerful, and demanding to be fed even by nights. During the second week, however, an old troublesome bronchitis grew worse, and on the fifteenth day he died from œdema of the lungs. No necropsy was allowed.

A sixth patient, a burgess, aged 52, was admitted to the Philanthropic Society's Infirmary with stricture of the lower third of the gullet, and with symptoms of two months' standing. He could still swallow liquid and porridge-like food. During the operation (under chloroform) severe retching occurred, the bowels prolapsing from the abdominal wound. Their reduction proved very difficult, and when it was at last accomplished, the author was compelled to hurry through the remaining steps of the operation, since the patient's pulse grew weaker, while the intense retching did not subside. Acting under these adverse circumstances, the author sewed to the wound a portion of the transverse colon, which was greatly distended. [A similar mishap occurred once in the practice of Maunder, and of another 'very experienced surgeon' mentioned by Schönborn.] This mistake was discovered only on the third day after the second stage (on the eighth day after the first), when the feeding tube was found blocked with a piece of fæces. Any further operative interference was at first declined by the patient. For two months he took his food through the mouth and defæcated through the accidental fæcal fistula. But subsequently he changed his mind, and accordingly was admitted to the Mariĭnsky Infirmary, where Dr. Vogel separated the adherent colon, sewed it up, returned it into the abdomen, and then sutured a portion of the gastric wall to the same abdominal wound. The stomach was opened thirteen days later. On the nineteenth day after the second stage, the patient died from gangrene of the lungs, in consequence of perforation of the œsophagus into a bronchus. The intestinal wound was found closed, the stomach being firmly adherent to the abdominal wall.

The author's general conclusions in regard to the operation are these. 1. Gastrostomy presents an operative measure which is fully justified in cases of malignant stricture of the œsophagus. 2. It promises better results, the earlier in the case it is performed. Hence, in an early stage of the disease the surgeon is fully justified, not only in proposing, but even in insisting on, the operation. 2. Gastrostomy is directly contra-indicated, if advanced lung-disease or general weakness, involving incessant recumbent position, be present. However, when a vital indication presses, the operation is justifiable, even in the presence of considerable prostration. 4. A prolonged preceding feeding on fluids alone, as well as the existence of an old gastric catarrh, considerably undermine the hope of success, even if the patient's general state and the condition of his lungs be relatively satisfactory. Hence, in cases of that kind, the surgeon is justified only in mentioning gastrostomy to the patient, but never in insisting on it.

As to the details of the operation, Dr. Velĭaminoff makes the following remarks. 1. Fenger's incision is more advantageous than a median section. 2. The peritoneal incisions must not exceed two or three centimètres (just sufficient to admit a forefinger with bullet-forceps). 3. Generally speaking, it is more advisable to perform the operation in two stages ; however, the author is not sure that gastrostomy at one sitting is considerably more dangerous than at two. 4. To secure a successful feeding, it is advisable to make at first a very small opening into the stomach, and to immediately introduce a thin long drainage-tube, passing through the œsophagus up to the patient's mouth ; by degrees, the tube should be replaced by a thicker one, and so on. 5. The patient should be urged to get up earlier after the operation [a condition which is regarded by the author as a very important one, and to which he attributes good results obtained in his third case]. 6. To prevent any undue irritation of the stomach, the food should be introduced during the first days in small (but frequent) doses.

In the *Khirurgitchesky Vestnik*, July to September 1885, p. 442, Dr. A. T. Bogaëvsky, of Krementchug furnishes details of the case of an emaciated Käzäk (= Cossack), aged 52, who was admitted to the Zemsky Hospital with symptoms of six years' duration. On examination, Trousseau's gastric sound No. 1 met an impassable obstruction at 31 centimètres from the upper incisors. The patient could swallow only fluids with ever increasing difficulty, and was rapidly losing flesh (five pounds during the last week). The lungs were healthy. The operation, conducted under the strictest antiseptic precautions, was performed in two stages, the first of them occupying about two hours. The abdominal incision, about seven centimètres in length, was made parallel to the left costal edge, two centimètres from the latter and from the ensiform cartilage. Only the serous and muscular coats of the stomach were sewed to the parietal peritoneum. Seven days later, the stomach was opened, the sutures being removed on the eleventh day. The patient markedly improved, gained flesh, and felt comfortable. However, a series of complications (articular rheumatism, gastritis, dysentery, and hypostatic pneumonia) cut short the improvement, the man dying eighty-eight days after the operation.

In the *Meditsinskoie Obozrenie*, Fasc. ii., 1885, p. 160, Dr. Jona D. Sarytcheff describes a case of gastrostomy performed by Professor N. V. Sklifosovsky, of Moscow. The patient, a telegraph official's wife, aged 59, began to experience difficulty in swallowing solid food about three years before admission to the clinic. For the last six months, she was able to take in only liquids. An œsophageal sound met an impassable stricture at 25 centimètres from the upper incisors. The operation was carried out after Fenger's method, the first stage being done in half an hour. The stomach was opened on the ninth day, the sutures removed on the tenth. Food was introduced through an apparatus devised by Dr. Sarytcheff, and consisting of a caoutchouc cannula resembling a tracheal tube used by veterinarians in equine practice. At the time of feeding, a tube with a funnel was fitted into the cannula ; the patient chewed her food and then forwarded it through this 'artificial œsophagus' by means of a metallic probe. During the first two weeks she lost six pounds in weight, but then began to steadily gain flesh, and in the third month weighed two pounds more than before the operation. She died six months after the latter, from exhaustion due to the progress of malignant disease.

In the *Khirurgitchesky Vestnik*, January 1886, p. 1, Dr. Ad. D. Knie,[*] of Moscow, writes that twenty-seven cases (twenty-five in males, and two in females) of malignant disease of the gullet presented themselves in his hospital [†] during the period from 1881 to October 1885 ; eighteen of them during 1885 alone. In thirteen cases gastrostomy was performed, with ten recoveries and three deaths.

One of the patients, a very emaciated and exhausted merchant, aged 62, of intemperate habits, with symptoms of twelve months' duration, was admitted on the fifth day of absolute inability to swallow even fluids. A stricture was situated 36 centimètres from the incisors. Gastrostomy was performed at two sittings, with an interval of fourteen hours. The man died thirty-six hours after the laparotomy. At the necropsy, a perforation into the left bronchus was found, but no peritonitis.

Another male patient, aged 42, with symptoms of fifteen months' standing, was able to swallow only small quantities of liquids for two months before admission. A stricture was struck about 30 centimètres from the dental arch. A gastric fistula was established eight days after laparotomy. The patient survived nine months, and died from metastasis of cancer.

A third patient, a merchant, aged 48, of inveterate drinking habits, with symptoms of four months' duration, and with a stricture 42 centimètres from the upper teeth, was operated upon at two sittings, with an interval of nine days. He was still living two months after laparotomy, but then was lost out of sight.

In a fourth patient, a railway engineer, aged 62, of drinking habits, with symptoms of five months' standing, and an obstruction 34 centimètres from the incisors, a gastric fistula was made eight days after abdominal section. The man lived 175 days ; he died from chronic pleurisy.

A fifth patient, a shoemaker, aged 40, of heavy drinking habits, with a difficulty in swallowing of six months' standing, had a stricture 28 centimètres from the dental arch. The stomach was opened eight days after laparotomy. Twelve days later, the stomach became partially separated from the abdominal wound, but was again fixed to the latter without any awkward consequences. He survived about six months.

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[*] Knie, Ad. D.—Clinical Observations from Knie's Surgical Hospital in Moscow. 1. Gastrostomy for Cancer of the Œsophagus. (*Khirurgitchesky Vestnik*, January 1886, pp. 1–28.)

[†] Dr. Knie's Surgical Hospital was established in 1880, there being only two beds at the time ; their number, however, soon rose to six, thanks to sympathetic support from the author's colleagues ; and now the institution possesses sixteen stationary beds.

A sixth male patient, aged 59, had suffered from dysphagia for eight months before admission, the stricture being discovered 40 centimètres from the incisors. Gastrostomy was performed at two sittings, with an interval of eight days. The man died five months later from pneumonia.

A seventh patient, aged 39, with symptoms of six months' duration, and a stricture 24 centimètres from the dental arch, was admitted on the seventh day of absolute œsophageal obstruction. He was extremely emaciated and weak, the operation being performed only because the patient incessantly implored the author, in shedding tears and on his knees. The stomach was cut into three days after laparotomy. On the eighth day, he died from profuse arterial hæmoptysis. No necropsy was allowed.

An eighth patient, a retired officer, aged 49, of intemperate life, suffered from dysphagia for eight months, a stricture being detected 36 centimètres from the teeth. A fistula was established eight days after abdominal section. He lived eight months and seventeen days, and died from pneumonia.

A ninth patient, aged 62, a moderate drinker, was admitted, four months after the first symptoms, with an obstruction 40 centimètres from the upper incisors, and was operated upon at two sittings, with an interval of eight days. Death (from cachexia and exhaustion) followed nine months later.

A tenth patient, a syphilitic and drinking gentleman, aged 41, with seven months' dysphagia, and a stricture 26 centimètres from the dental arch, was operated upon as in the preceding case, and survived nine months and six days. He died from pneumonia.

An eleventh case was that of a fairly well nourished drinker, aged 56, with five months' symptoms and an obstruction 40 centimètres from the anterior teeth. The operation was done as in the preceding patient. He was still alive and strong four months later.

A twelfth case is that of a drinker, aged 59, with difficulty in swallowing of four months' standing, and with a stenosis 32 centimètres from the incisors. The stomach was incised nine days after laparotomy. He was still living three months later.

The thirteenth patient, aged 61, suffered from dysphagia for eight months before his admission, a stricture being found 24 centimètres from the dental arch. A gastric fistula was established six days after abdominal section. Twelve days later the man died from exhaustion.

In a fourteenth case, that of a merchant, aged 56, who had been suffering from dysphagia for five months, and in whom there was found an obstruction 36 centimètres from the teeth, only the first stage of gastrostomy was performed, since in the course of the next six days his stricture became freely passable for fluid. Several days later the stomach was quite unexpectedly separated from the abdominal wall, and sank into the abdominal cavity. A small portion of the omentum prolapsed and was cut away; after which the wound was closed with sutures and soon healed. A month later, however, the œsophageal stricture again became impassable, and at the end of two months the patient died from perforation of cancer into the bronchus.

Reviewing and analysing his cases, as well as the results obtained by other surgeons, at home and abroad, Dr. Knie comes to the conclusion that gastrostomy for œsophageal cancer is contra-indicated: 1, in extremely exhausted patients; and 2, when there are present some suspicions about disintegration of the new growth and its perforation into the bronchi or lungs. As a very suspicious sign, the author regards the presence of pain occurring without any apparent cause, and spreading over the patient's back. Gastrostomy in such patients 'deals the last blow'; it shortens their lives, since constant lying on the back after the operation favours hypostatic pneumonia and disintegration of the tumour, perforation into the respiratory organs being invariably found at the *post mortem* examination. The operation is indicated 'when the patient, though considerably emaciated, is still fairly strong and energetic, his heart and lungs are doing their duty satisfactorily, his temperature is normal, and his appetite fairly good; in short, when we may hope that he will bear well the operation.' In such cases, the establishing of a gastric fistula is indicated as imperatively as the performance of tracheotomy for cancerous stricture of the trachea; for the operation may bring an improvement in the patient's general nutrition and state, and with it a delay in the disintegration of the new growth and in its perforation into the respiratory organs. Dr. Knie most decidedly repudiates any use of sounds for treating cancerous strictures of the gullet; as a matter of fact he never uses these instruments, since, apart from inflicting any rough injuries, they only irritate the new growth and accelerate its disintegration and perforation. Once stricture becomes impassable, while gastrostomy is contra-indicated, he resorts to nutritive enemata, or, if there be the slightest possibility, to feeding the patient through a catheter introduced into the gullet *à demeure*. In all his cases, he operated after Fenger's method and under chloroform, and sewed the serous coat of the stomach to the parietal peritoneum with fifteen or twenty Lembert's sutures; the latter being removed not earlier than two weeks after laparotomy. He never performed any toilette of the peritoneum. The author never saw any eczematous rash around the fistula, or prolapse of the gastric mucous membrane. The fistula was always closed by a drainage-tube with a clamp. Feeding was at first performed with the utmost caution, but the daily amount of food was then speedily increased, reaching sometimes six pounds.

In the *Ejenedelnaia Klinitcheskaia Gazeta*, Nos. 15, 16, and 17, 1885, Dr. Dmitry Morozoff,[*] house-surgeon to Professor S. P. Kolomnin's clinic in St. Petersburg, details three cases of malignant stricture of the gullet, in two of which gastrostomy was performed by Professor Kolomnin, and in one by Dr. Knie, of Moscow. One of the patients, a merchant, aged 48, of drinking habits, was admitted with symptoms of eight months' duration. He could only swallow fluid food with difficulty. An impassable stricture was struck against at 33 centimètres from the upper incisors. Gastrostomy was performed in two sittings, with an interval of three days. A considerable improvement in the patient's general state followed, and on the fifteenth day after the second stage he left the hospital, feeling quite comfortable and cheerful, and feeding himself through a silver cannula, to which a tube with a funnel ('an artificial gullet,' to use Sarytcheff's expression) was attached (during his meals). Four days later, however, the man returned, complaining of oozing of gastric contents through the fistula. Intense redness and erosions were present around the gastric opening. A month later gastro-intestinal catarrh set in, which was soon followed by progressive emaciation and prostration, distressing cough, with offensive purulent expectoration, dulness on percussion over the lower lobe of the right lung, and fever. The patient survived the operation about three months. No necropsy was made.

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[*] Morozoff, Dmitry.—Three Cases of Gastrostomy for Malignant Stricture of the Œsophagus. (*Ejenedelnaia Klinitcheskaia Gazeta*, 1885, No. 15, pp. 254-57; No. 17, pp. 267-73; and No. 17, pp. 283-90.)

A second patient, an emaciated and weak merchant, aged 57, a hard drinker, was operated upon by Dr. Knie (after Fenger's method) about two months after the appearance of the first symptoms, and about a month after an inability to swallow solid food had been perceived. At first, the patient took his food only through the fistula, then through the latter and the mouth. Four months after the operation he became able to swallow solids, and applied to Professor Kolomnin for closure of the gastric opening. On examination, he was found strong and well-nourished; nevertheless, his request was refused, since, on introducing a Trousseau's sound with the smallest olive, the latter could not pass through an obstruction about 28 centimètres from the upper dental arch. When seen seven months and twenty days after gastrostomy, the man was still perfectly well and sound.

The third patient, a bather (*banshtchik*), aged 39, a weak and emaciated drinker, entered the clinic with symptoms of ten months' duration. For the last nine months he could only swallow liquids; for five days before admission he was unable even to swallow water. An impermeable stricture was situated about 18 centimètres from the upper teeth, correspondingly to a tumour felt externally in the neck, and passing down into the posterior mediastinum. There were present, also, aphonia, general œdema of the glottis, and offensive breathing. Gastrostomy was performed without chloroform and in one sitting, a food-mixture being immediately passed into the stomach. Four days later, the patient died from collapse and œdema of the lungs. The necropsy revealed a perforation of the cancerous growth into the trachea, and two strictures of the gullet. There was found also extensive caseous destruction of both lungs.

In a fourth case, gastrostomy was left unfinished. The patient, an extremely emaciated woman, aged 46, a drinker, began to feel difficulty in swallowing solid food three months before her admission. She could not take even water for the last three days. An œsophageal sound was arrested at a point 29 centimètres from the upper teeth. An operation without chloroform was commenced by an incision, 7 centimètres long, which ran parallel to the left costal arch. The spleen presented itself in the abdominal wound, and exceedingly interfered with finding out the stomach, which was greatly contracted. On every attempt at introducing the fingers into the peritoneal cavity there appeared a dangerous failure of the pulse, cyanosis, and extreme restlessness, which ultimately induced Professor Kolomnin to give up the operation, and to close the abdominal wound. A small superficial abscess formed itself six days later, which was cut into, the wound healing soon afterwards.

Dr. Morozoff adduces, also, three other cases, communicated to him by Drs. N. D. Monastyrsky and Dombrowski, of the Petropavlovsky Hospital. One of Monastyrsky's cases is that of a woman, aged 40, with an absolute cancerous stricture in the lower end of the gullet. Gastrostomy was performed in two stages, the second thirty-five days after the first. Food-mixture flowed back. The woman died on the next day from collapse. In the second patient of the same surgeon, a man, aged 48, with malignant stricture of the middle part of the œsophagus, the stomach was opened eight days after laparotomy. A rapid improvement ensued. The patient was practically well until, six months later, he had taken to drinking. Two weeks later he died. At the *post mortem* examination cancerous deposits in the transverse mesocolon and liver were found.

Dr. Dombrowski's patient, a woman, aged 46, was operated upon in two sittings, with an interval of a week. During the first month after gastrostomy, she gained in weight about four kilogrammes. She survived 104 days, and died from pneumonia, caused by perforation of cancer into the right bronchus.

Reviewing the whole subject of gastrostomy for malignant stricture of the œsophagus, Dr. Morozoff arrives at the following conclusions. 1. The operation is indicated as soon as the patient's strength and weight begin to sink, and difficulty in swallowing porridge-like food begins to make rapid progress. 2. It should be practised, also, in patients who are extremely weak from preceding starvation, and in whom gastrostomy, as a means of feeding, fulfils a vital indication. 3. The operation should be performed quite simply, by an oblique incision parallel to the left costal arch, without any trimming of the lips of the abdominal wound. 4. Except in cases of an extremely weak state of the patient, gastrostomy must be performed in two stages. 5. As to sutures, those of silver wire are the best. Catgut sutures are unreliable. 6. As a rule, the operation is to be conducted under narcosis. But if any apprehensions of possible collapse from chloroform be entertained, gastrostomy may be performed without general anæsthesia. Local etherisation may be employed in such cases.

Russian literature contains at present forty-five cases of gastrostomy for cancerous stricture of the gullet, from the practice of the following surgeons. 1. Veliaminoff, six cases (*see* above). 2. Bogaëvsky, one case (*ib.*). 3. Kitaëvsky, one case (*ib.*, March 1884, p. 112). 4. N. D. Monastyrsky, two cases (*see* above). 5. Dombrowski, one case (*ib.*). 6. Kolomnin, five cases, two of which are given above. A third case, in the *Proceedings of the St. Petersburg Russian Medical Society*, 1881-82, p. 152, is that of a highly emaciated man, aged 54, with a stricture in the middle third of the œsophagus; the patient died from collapse twenty-two hours after the operation in one sitting. A fourth case is described by Dr. Alexis Alexëëvsky in his inaugural dissertation 'On the Transfusion of Defibrinated Blood,' *St. Petersb.*, 1883, p. 40. The patient, an extremely meagre and exhausted schoolmistress, aged 38, with a malignant stricture of the cardiac end of the œsophagus, died twenty-nine hours after the first stage of gastrostomy from collapse and acute anæmia, caused by profuse hæmorrhage from the abdominal wound. An intra-arterial transfusion of defibrinated blood was performed both before and after the operation. The fifth patient (*Vratch*, No. 18, 1883, p. 282, reported by Dr. Novitzky), a man aged 46, with a stricture in 37 centimètres from the upper incisors, lived two months after Fenger's operation, gained in weight twenty-one pounds, and died from the perforation of the new growth into the aorta. 7. N. V. Sklifosovsky, three cases, for the first of which *see* the LONDON MEDICAL RECORD, January 1880, p. 20, and another, reported by Sarytcheff, is given above. The third patient (*Vratch*, No. 21, 1880, p. 341), a man aged 56, with a stricture at 33 centimètres from the upper dental arch, was operated upon in a sitting, and died on the nineteenth day from exhaustion. 8. Knie, *see* above. 9. Professor Pelekhin, in the *Proceedings of the St. Petersburg Russian Medical Society*, 1881-82, p. 149. The patient, a retired soldier, aged 53, was operated upon twenty-four hours after an intra-arterial transfusion of defibrinated blood, the stomach being opened thirty hours after the first stage. The man died on the seventeenth day from collapse. 10. Dianin, in the *Vratch*, No. 39, 1882, p. 639, and No. 18, 1883, p. 282. A peasant, aged 45, with an impassable stricture of the lower third of the gullet, was operated in Professor Pelekhin's clinic, and survived nine months and four days, for the first five or six months his state being most satisfactory. He died from progressive prostration. 11. Tiling, in the *St. Petersb. Med. Wochensch.*, No. 49, 1881. The patient, an extremely emaciated man, aged 57, with a stricture in the lower third, died nine hours after the operation in a sitting. 12. E. Anders, *ib.*, No. 21, 1882. The patient, a cachectic woman, died on the fourth day after gastrostomy in one sitting, from seropurulent peritonitis. 13. An anonymous surgeon, of St. Petersburg. The case is quoted by Dr. Fiedler, in his dissertation, p. 84, and was that of an extremely emaciated woman, aged 38, with symptoms of one year's duration. She died from exhaustion on the second day after the second stage, or on the fifteenth after the first. There had occurred hæmorrhage from the gastric wound. The stricture, two inches long, was situated in the lower third of the œsophagus.

Gastrostomy for cicatricial stricture of the gullet has been performed by the following Russian practitioners. 1. Snegireff (*Proceedings of the Moscow Physico-Medical Society*, March 1877). The patient, a woman, aged 30, in whom an absolute stricture had been developed in consequence of her swallowing some sulphuric acid, died thirty hours after the operation in one sitting and of three hours' duration (under chloroform). 2. S. Soboroff (*Letopis Khir. Obshtchestva v' Moskvē*, No. 2, 1880, p. 18). The case ended in death from septicæmia on the next day after the operation. 3. A. S. Jatzenko. The case is quoted by Dr. Rodzaevsky, in his inaugural work (*see* the LONDON MEDICAL RECORD, June 1884, p. 259). A man, aged 26, took sulphuric acid instead of *vodka* (aqua vitæ). Eight months later he could swallow only liquids, and became extremely emaciated. A gastric fistula was established in one sitting, the patient being fed through it on the next day. When seen a year later he was well nourished. 4. Stukovenkoff (*Letopis Khir. Ob. v' Moskvē*, No. 3, 1882, p. 43). Laparotomy and opening the stomach were done in one sitting. The patient, a man, died on the sixth day from exhaustion. In the *Vratch*, No. 48, 1884, p. 806, Dr. Alexandr. P. Zelenkoff, of Zagorodnaia Infirmary, in St. Petersburg, describes an interesting case of gastrostomy in a subject with tuberculous destruction of the œsophagus. The patient, a retired clerk, aged 50, in 1882 was attacked first by right-sided exudative pleuritis and bronchitis, then by acute rheumatism and neuralgic pain in the right shoulder. In 1883, a deep abscess in the neck was formed and opened. Soon afterwards the pain in the shoulder became incessant and very severe. In March 1884 a burning substernal pain, increasing during deglutition, was added. Simultaneously, a progressive difficulty in swallowing appeared. In May the patient was able to swallow only liquids, and even that was accompanied by an unbearable pain. An obstruction at the level of bifurcation of the trachea was detected, a gastric sound (No. 16, Charrière) passing only with difficulty. A cancer within the posterior mediastinum, pressing on the gullet, was diagnosed, and accordingly gastrostomy was performed, the stomach being opened a week after laparotomy. Feeding, however, proved a complete failure. Acute gastritis appeared, the gastric contents acquiring a bad odour; the stomach soon became intolerant of even small amounts of food. The fistula never cicatrised; on the contrary, it grew larger from the mere pressure of the shield. In addition, the latter cause led to the formation of a new fistulous tract below the operative fistula. On the twenty-third day after the first stage, the man died from œdema of the lungs. At the *post mortem* examination there were found advanced pulmonary tuberculosis, enlargement and caseous degeneration of the mediastinal lymphatic glands, and a cavity of the size of an apple, situated about three finger-breadths below the tracheal bifurcation, and filled with caseous detritus. The œsophagus opened into this cavity, and emerged from it five centimètres lower, only a small piece of the wall of the organ, about five centimètres long, being left undestroyed. The mucous membrane of the stomach presented gastritic changes with numerous ecchymoses, varying in size from a hemp-seed to a pea. [The subject of gastrostomy is at considerable length treated in Dr. Leo Fiedler's able inaugural work, *A Contribution to the Study of Operations on the Stomach*, St. Petersburg, 1883, p. 274. The author has collected 126 cases of the operation from international literature.—*Rep.*]

V. IDELSON, M.D.

ARTICLE 5740.

DE WECKER ON THE USE OF ESERINE AND ANTISEPTICS IN CATARACT EXTRACTION.*

INJECTION of the anterior chamber seems first to have been systematically practised by St. Yves, who employed it in the treatment of hypopyon (1722). Heyman employed it in cataract extraction, with the view of removing blood (*Klin. Monatsbl.*, 1864, p. 365). The idea of removing cortical lens-matter by injection of fluid, recently recommended by McKeown and Wicherkiewicz, appears to have been first suggested and practised by Inouye, a Japanese surgeon, who published his results in 1879. M. Panas has for some time practised irrigation of the anterior chamber with an antiseptic fluid in cataract extraction without an iridectomy, using a fluid composed of alcohol, 20 grammes; biniodide of mercury, 5 centigrammes; water, 1,000 grammes. The slight irritation produced by the injection causes the pupil to contract, and thus reduces any prolapse of the iris; but the primary purpose of the injection is to carry an antiseptic into the lens-capsule itself.

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* *Annales d'Oculist.*, March-April 1886.

Dr. De Wecker has not used a continuous stream of fluid as recommended by McKeown, with the view of washing out cortical matter: he prefers to inject a few drops, so as to render lens-matter visible which was previously transparent, and to remove this by friction with the lower lid in the usual way, repeating the injection and friction as long as any cortex can be seen. The instrument he uses is like the stopper of an ordinary drop-bottle with an India-rubber drum, and terminating below in a fine silver nozzle having a convenient curve. Fluid is injected by pressing the forefinger on the drum, and the amount of resistance can be readily estimated. As the instrument is withdrawn, slight pressure should be made upon the drum, so as to avoid exercising any suction upon the iris.

De Wecker attributes the greatest importance to producing contraction and a normal position of the iris after cataract extraction, and injects salicylate of eserine with this view (salicylate of eserine 25 centigrammes; boracic acid, 4 grammes; distilled water, well boiled, 100 grammes; carefully filtered).

As regards the antiseptic effect of injections of the anterior chamber, De Wecker is sceptical. Although he accepts without reserve the beneficial results produced by the antiseptic surgery of the eye, he believes that antiseptics act by mechanically preventing the entrance of germs, and not by rendering them sterile when once they have entered. Experiments on bacteria have shown that their destruction is not a matter of a moment, or even of a few minutes. Sattler has shown that the micrococci that are found in the lacrymal and conjunctival secretions, and whose power of resistance is comparatively low, require submersion in a solution of corrosive sublimate, of the strength of 1 in 1,000, for not less than a minute, to render them sterile. But neither the conjunctiva nor the wound will bear so concentrated a solution. The use of a solution of 1 to 5,000 for two minutes caused a visible retardation of their development, but three minutes were required to render them sterile. What surgeon practises irrigation of the wound in cataract extraction for so long as three minutes? And yet irrigation must be far less efficacious than submersion. When the fluid is to be injected into the eye, much weaker solutions must be used, and then a contact of at least ten minutes would be required. For these reasons, De Wecker considers that corrosive sublimate, as it is used in operations, cannot be considered as a germicide; and, although he is strongly in favour of irrigation of the anterior chamber, he does not consider it as synonymous with disinfection. The difference is not merely theoretical; for, if the aim be simply irrigation, one can use a fluid which, while thoroughly aseptic, possesses no irritating properties, and then a prolonged and complete irrigation of the anterior chamber and lens-capsule can be fearlessly carried out.

De Wecker would, therefore, renounce all irritating substances as materials for injection, including all the mercurial preparations, since these, when used in such strength that they are likely to have any germicide action, are apt to produce opacities of the cornea (which have been attributed to cucaine), and to irritate the conjunctiva, setting up a copious mucopurulent discharge. Suppuration usually commences at the wound, only rarely in the capsule; hence the washing out of the eye has an important antiseptic action by mechanically cleansing the wound *a tergo*.

The following is the method of operating adopted by De Wecker. The eyelids, and especially the roots of the eyelashes, are first carefully disinfected with a solution of corrosive sublimate (40 centigrammes in 1,000 grammes), and the conjunctiva and upper and lower *culs-de-sac* are then irrigated with the same solution. The incision is corneal, and no iridectomy is performed. The speculum is laid aside as soon as the incision is completed. The capsule is seized in its centre with a pair of curved forceps resembling iris-forceps, with projecting teeth, and a quadrilateral portion is torn away by traction. The lens is removed in the usual manner, and any remaining cortex by friction. The curette of the injector is then introduced as far the centre of the pupil, and a few drops of the solution of salicylate of eserine are injected. The injection and friction are repeated until the pupil appears absolutely black, even with the electric light. The injecting nozzle may be carried deeply into the capsule, and even behind the iris on the side opposite the section. When the pupil now appears black, even when examined with the electric light, the wound is disinfected by letting the solution of corrosive sublimate flow over it from a pad of wool. The traction of the inferior rectus, as the patient looks down, generally causes a slight but sufficient gaping at the wound; if not, this can be produced by slight pressure upon the lower lid, the previous injection of the salicylate of eserine preventing all prolapse of the iris during this manœuvre.

The author believes that by this method the extraction of immature cataracts will be rendered absolutely safe; in such, however, he recommends a preliminary iridectomy about fifteen days previously. He believes that it is a matter of prime importance to maintain contraction of the pupil during the whole period of cicatrisation of the wound, so that the iritic angle may be free; the edge of the pupil thus remains in contact with the hyaloid fossa, which is completely free from all remains of lens-matter; while the rent in the capsule is of such a size that no portion of the margin of the pupil is in contact with the capsule.

To ensure this prolonged effect of the myotic, a pad soaked in the following solution is applied immediately after the operation: salicylate of eserine, 5 centigrammes; boracic acid, 4 grammes; water distilled and bottled, 20 grammes; glycerine, 80 grammes; this is renewed every twenty-four hours for the first five days, and applied the next two nights as a precaution. On the first pad there is usually a little mucus; the others should be perfectly dry. After the seventh day, there is seldom any sticking of the lids at night. The eserine pad is said to be very comfortable to the patient, not becoming dry or hard, and preventing any conjunctival secretion. If on the fifth day there be any opacities in the pupil, or if, owing to an insufficient laceration of the capsule, there be posterior synechiæ, a mydriatic is used; but in all uncomplicated cases its employment is considered to be contra-indicated.

W. Adams Frost.

Triple Births.—At a recent meeting of the Academy of Medicine, M. Charpentier reported on a memoir by M. Jenot, of Dercy, on triple births, which affirmed that they are not so uncommon as is generally supposed; they were in the proportion of 1 to every 6,000 or 10,000 deliveries.

ARTICLE 5741.

KIRSTEIN ON TUBERCLE-BACILLI IN THE URINE.

IN the *Deutsche Med. Wochensch.*, No. 15, 1886, Dr. Alfred Kirstein relates the following case, in which a proper diagnosis was rendered possible by the discovery of tubercle-bacilli in the urine. The patient, born in 1846, of a thoroughly sound family, was as a child healthy and strong. At the age of 19 he injured his left wrist by a fall at gymnastics, but was able to serve as a soldier. In the campaign of 1866, however, he suffered much from his wrist, and eventually amputation at the middle of the upper arm became necessary, most probably on account of fungous tubercular inflammation of the wrist. The healing process lasted two years, purulent fistula having appeared at the end of the stump, which was closed only after extirpation of the axillary glands. In 1870 he had gonorrhœa, which yielded to proper treatment. For many years, he was able to work hard. In 1880 he caught cold in a snowstorm, and hæmaturia set in. This gradually ceased, but the urine became turbid. On his admission to the hospital a stricture of the urethra was discovered, and he was also treated for catarrh of the bladder. But this disease grew at once worse, and became complicated with strangury. The stricture also advanced. Then, suddenly, without any apparent cause, hæmorrhage again occurred, and he was unable to pass urine. Only by a metallic catheter could relief be given. The patient often used the catheter himself, and then went to a specialist to undergo treatment by bougies. To this the stricture yielded. In the meantime a swelling, of the size of a hen's egg, appeared beneath the skin between the cartilage and the bone of the seventh rib on the left side, and, later, a similar one under the clavicle. Pains were also felt in the region of the lower lumbar vertebræ, radiating to the right knee, accompanied sometimes by a numbness in the right thigh. Later, there appeared a swelling in the right groin, which was recognised as the result of a gravitation abscess of the spine. The organs of respiration, circulation, and digestion were in good order; the testicles and kidneys were nearly normal. The urine showed a slight regular turbidity, and also cloudy floccules, which proved under the microscope to be composed of pus-corpuscles. After standing for a time, there was a sediment of the same nature of barely one-tenth of the depth of the whole urine. A drop of this greasy sediment was found to swarm with short thick bacilli, partly in chain-form, partly in crowded groups; but no tubercle-bacilli were found. Thus septic catarrh of the bladder was clearly diagnosed. The urine was searched again and again for tubercle-bacilli; and, though three intensely coloured spore-bearing tubercle-bacilli were found in the second preparation, the next forty specimens were free from them. Later experiments proved that, as a rule, only one in thirty or forty specimens contained tubercle-bacilli in the typical form, *i.e.* seldom isolated, but nearly always as a small group of from three to ten lying crowded together in parallel arrangement. It was thus ascertained that there was within the urinary organs tubercular ulceration in addition to the septic cystitis; for it was proved that the abscess of the lumbar vertebræ had not broken through into the urinary passages. The next step was to determine exactly the seat of the tubercular focus. This was proved to be in the bladder by drawing off the urine with the catheter, and washing out the bladder twice in succession with a 0·6 per cent. warm solution of ordinary salt; and in both cases tubercle-bacilli were found in the sediment.

In order to find bacilli in every specimen, Dr. Kirstein adopted the following plan. A bottleful of urine was allowed to stand until there was a thick layer of sediment; then the clear fluid was poured off, and the residue poured into a goblet, well stirred with a glass rod, and then filtered. The whole residue was then carefully taken off the filter paper in long strips with the back of a hot scalpel, and transferred to a watch-glass, in which the sediment appeared as a little lump of a thick pulpy consistency. A fair portion of this was gently pressed between two glass plates, the edges of which were wiped. Then the plates were separated in a parallel direction, dried, passed three times through a flame to fix them, and then put into Ehrlich's solution of fuchsine prepared with fresh aniline water each time. The colouring solution was brought to boil, and in ten minutes the preparations were taken out and discoloured in nitric acid diluted with three parts of distilled water. This last may be continued for an hour, with careful manipulation. The discoloured preparations were washed with spirits of wine, slightly coloured in diluted solution of methylene blue, mounted in Canada balsam, washed with water, dried, and examined with oil-immersion, and in a strong light. This plan, which succeeded, Dr. Kirstein calls a *reduction process*, and recommends its trial in suspicious cases.

JOHN ELLIOTT.

ARTICLE 5742.

COHN ON ANÆSTHETICS IN LABOUR.

IN an address before the Berlin Gynæcological Society, Dr. Ernest Cohn gives the results of his experience in the use of various anæsthetics in cases of labour.

1. *Nitrous oxide oxygen* is a mixture of nitrous oxide gas and pure oxygen, the latter being in such quantities as to render the mixture innocuous; in fact, it can be inhaled for hours together without any bad results. After having being inhaled for some time it produces what may be termed semi-narcotism; the sensorium remains unaffected, just as for instance in the first stage of falling asleep; and whilst there is a consciousness of mechanical touch, there is an entire absence of pain. Before trying this gas on the patients, Dr. Cohn experimented on himself, his colleagues, and the nurses. In his own case, after taking from four to six inhalations, keeping the gas as long as possible in the lungs, he felt intense formication, beginning at the extremities and extending upwards till it ended in loud noises in the head, followed by a feeling of violent congestion. After inhaling for a long time, he had an incision made into a boil from which he was suffering, but felt considerable pain from the operation. As soon as the mask was removed from the face, the effects of narcotism vanished. One of the nurses, ho ever, became totally unconscious and awoke o slowly. As to the effects in labour, the psych influence was absolutely favourable, except in t cases. As a rule, after a few inhalations the pa lay still, did not cry out, assisted the pain abdominal effort, and could give answers whe

mask was removed from the face. In three cases, however, the effects were quite unexpected and alarming. The patients grew intensely excited, threw themselves about, struck and kicked, and shouted like maniacs. To narcotise them further required a considerable amount of force, but when they awoke they were unaware of all that had passed; and had felt no labour-pains. On the whole, Dr. Cohn agrees with Döderlein as to the beneficial effects of the gas in labour-cases, the heart and lungs remaining quite normal. But for private practice he cannot recommend it, because of (1) the possibility of the gas causing excitement; (2) the difficulty and expense of obtaining the gas; (3) the awkwardness of conveying to the house about 200 litres of the gas and the rather bulky mouth-piece.

Bromal does not affect the pains as such, and under its influence the breathing and pulse are unchanged, and the sensorium hardly affected. Dr. Cohn usually allowed the patient herself to hold the mask before her face. The abdominal pressure is strong and accelerates the birth, while there is no feeling of pain. But the bromal received into the blood is only slowly thrown off in the form of a gas, with a keen odour of leeks, from the breath not only of the mother but also of the child. Yet Dr. Cohn has never found that the presence of bromal in the blood of the child has had any bad effects. In many cases also the patient requires to inhale but a very small quantity of the anæsthetic, and then this disagreeable after-effect is only slight. With nervous sensitive women, by whom the abdominal pressure is not exercised for fear of pain, the use of bromal will in many cases render unnecessary the use of the forceps, and a labour that has been stationary for hours will be quickly brought to a satisfactory conclusion.

Chloroform has been in general banished from obstetrics, for fear of its retarding the action of the pains. But even supposing this to be true (and it has been proved to some extent by Winkel), it is not correct to assume that a decrease of the intensity of the pains means a delaying of the birth. Certainly a complete standstill of the labour may be brought about by deep chloroform narcosis, during the stage of expulsion. This, however, is not a result of the cessation of the pains, but of the paralysing of the abdominal muscles. It can also be observed in laparotomy that chloroform has not the same effect on involuntary as on striped muscles; for in the deepest narcotism the peristaltic movement of the intestines is unimpared. At any rate, it is clear that in normal cases deep narcotism cannot be resorted to only for alleviating the pains; but with slight narcotism it is different. After having been slightly chloroformed by a few inhalations, the woman in labour, without exception, feels no more of the pains. The contractions of the uterus, which involuntarily put the abdominal pressure into action, are perceived. In this way chloroform acts similarly to moderate doses of morphine and chloral; the latter, however, in stronger doses reduces also the intensity and frequency of the pains. Hence, in cases of spasmodic labour-pains and threatened rupture of the uterus, Dr. Cohn uses morphine injections in preference to chloroform. The after-effects of chloroform in labour are absolutely *nil*. Asphyxia, in a few cases fatal, occurring during the cleansing of the uterus after abortions, always at the beginning of the operation, seems attributable rather to the effect of the disinfecting injection. In cases of eclampsia, Dr. Cohn asserts that continued slight narcotism accelerates the birth. Last year, out of seventeen cases of eclampsia only eight, including two cases of twins, were treated by operation, whilst nine very severe cases concluded spontaneously.

Short deep narcotism has only a slight influence in the course of labour. The opening proceeds perhaps more slowly. Expulsion ceases entirely during the period of narcotism, but becomes the more energetic in the stage of slow awaking. Secondary uterine hæmorrhage, which might have been ascribed to deep narcotism, has never been observed by Dr. Cohn with his method of treating the third stage. The great drawback to the use of chloroform is its effect on the child, which sometimes appears to be narcotised, and requires much time and trouble to be brought round. In one case, in which the mother had been two and a half hours in a state of narcotism, the child died four seconds after birth.

On the whole, Dr. Cohn prefers chloroform to bromal. He allows a few drops to be inhaled when the pains first begin, and before the abdominal muscles begin to act and increase the pain. Forty grammes will suffice in the case of a primipara to render the whole period of expulsion painless—certainly a very small quantity spread over so long a period. But to anyone who objects to chloroform, he can confidently recommend bromal.

John Elliott.

Article 5743.

BARLOW ON THE NATURE OF WHOOPING-COUGH.

In the *Lancet*, May 1886, pp. 870, 915, and 966, Dr. W. H. Barlow contributes an article upon the nature of whooping-cough. Various theories have been advanced as to its nature and etiology. Some consider that the cough originates from irritation of the gastric and intestinal surfaces; others consider it a variety of bronchitis, or a neurosis. The definite period of incubation (fourteen days) and the frequency with which the epidemic cycles coincide with those of measles, have led some observers to consider the disease to be a specific fever; and some have even asserted the identity of measles and whooping-cough. Dr. Sturges has promulgated the opinion that the whooping is simply a nervous adjunct to an ordinary epidemic catarrh. Out of fifty cases of the disease observed by the author, he did not find one in which the cough either coincided with the outbreak, or preceded the eruption, of measles. As to the seat of the irritation, some say it is the larynx, some the mucous membrane lining the supraglottic portion of the larynx; whilst Dr. West states that he has found a state of extreme irritability about the fauces.

The cause of this irritability is, no doubt, some local irritant.

In 1867 Poulet described the result of his researches on the organisms found in the respiration of children affected with whooping-cough. It was noticed that the expired vapours of such patients presented, on microscopic examination, a host of infusoria, in every case identical. The researches of Letzerich in 1873 have, however, led to a clearer pathology. In the sputum ejected after a typical spasm of whooping-cough there are generally some whitish-yellow spots, varying from the size of a millet-seed to that of a lentil. On examining these spots under the microscope, they will be found to consist of chains of micrococci. Letzerich cultivated them, and then introduced the spores into the tracheæ of different animals, who were each attacked at the end of a few days with laryngo-tracheal catarrh, and afterwards with spasmodic attacks of croup. Tschamer, of Gratz, made further observations, and noticed that besides epithelial cells, and a mycelium reticulated with polygonal meshes, there were numerous round or ovoid spores. These organisms he also cultivated, and introduced them into the tracheæ of animals, with results identical to those of Letzerich. Tschamer also found that these corpuscles were analogous to, if not identical with, those that are found in the depressions in the rinds of oranges and citrons in a state of putrefaction, where they exist in the form of a black velvety deposit. These deposits being inhaled, in four days he felt a pricking in the larynx, and ten days later he had a cough, which presented the characters of whooping-cough, whilst the examination of the sputum was identical in character with that of patients suffering from whooping-cough. From these results, the writer arrived at the conclusion that whooping-cough owes its origin to the presence of, and the irritation produced by, a cryptogamic parasite upon the mucous membrane of the larynx. The periodicity of the attacks is explained by the necessity that must exist for the effects of the irritation to accumulate before it can produce the reflex action.

Dr. Barlow concludes his paper by describing a new method of treating this disease, introduced by Professor Moncorvo. This consists in painting the back of the pharynx, every two hours, with a one per cent. solution of resorcine. By this means the disease is cut short in a great majority of cases, and the number of whoops rapidly diminishes after the application has been used for two or three days.

RICHARD NEALE, M.D.

ARTICLE 5744.

BRAUN ON THE OPERATIVE TREATMENT OF INTUSSUSCEPTION.

IN a paper read at the fourteenth congress of the German Society of Surgery, and published in the *Archiv für Klinische Chirurgie*, Band xxxiii, Heft 2, Professor H. Braun, of Jena, puts on record an unsuccessful instance of laparotomy for intussusception in an infant, aged three months, and offers the following remarks, based on a collection of sixty-six cases, on the operative treatment of this affection.

The author holds that operative treatment is imperatively indicated in cases both of acute and of chronic intussusception, whenever the surgeon has to contend against severe symptoms of obstruction, particularly vomiting and complete constipation, which cannot be removed by active medicinal and local measures. The most promising of local measures, it is pointed out, are the introduction of fluid through a funnel and long tube, the inflation of air in cases of high intussusception, and reposition of the invaginated gut in cases of intussusception occurring in the lower portion of the intestinal tract. At the present day, there is much less delay in resorting to operative measures, in consequence of recent improvements in the treatment of wounds, together with increased experience of abdominal surgery and perfecting of the practical details of operations on the peritoneal cavity. Intussusception under the usual method of treatment is a very serious affection, since, according to Leichtenstern, the mortality in subjects under the age of twelve months is more than 80 per cent., and in adults 63 per cent.

Laparotomy is performed in cases of intussusception, with the view of releasing the invaginated portion of gut by simple traction, or by associated traction and compression, or by drawing the intussusceptum and the sheath in opposite directions. If, in consequence of close adhesions, the surgeon fail to release the ensheathed portion of gut, he has to decide whether to close the abdominal cavity at once, and so leave the patient to certain death, or to perform resection of the intussusceptum ; or, again, to establish an artificial anus, with the object of keeping the patient alive during the process of separation of the invaginated gut. Of 51 cases in which laparotomy was performed for pulling out the intussuscepted gut, in 26 the attempt was successful, and in 25 it failed. Professor Braun states that the result of the operation is much influenced by the conditions attending the procedure of releasing the gut. If the release be attended with difficulty, the operation must be a very formidable one, especially in young infants. The failure to effect release was due in some cases to firm adhesions between the opposed serous surfaces of the intestine, in some to swelling of the invaginated portion, and in others to a gangrenous condition of the gut, the wall of which was rendered so soft as to be readily lacerated on the slightest traction. Of the 26 cases in which the invagination was successfully reduced at the time of the operation, 16 terminated fatally. In 18 cases the patients were infants, and of these 14 died, in most instances within a few hours after the operation. Of the remaining 8 patients, who were adults, 6 recovered. The 24 cases in which the invagination could not be relieved, all proved fatal; in 11 of these resection was performed, and in 9 enterotomy. This latter operation was performed without any attempt to release the gut in ten cases, and invariably with fatal results. These tables show that hitherto, in cases in which attempts to withdraw the invaginated portion of gut have failed, laparotomy has always been speedily followed by death, and that, on the other hand, where release of the gut has been effected, several lives have been saved. The surgeon, therefore, should endeavour to perform the operation, before relief of the intussusception by direct withdrawal of the gut has become impracticable.

As the prospects of success depend much on early surgical intervention, laparotomy in cases of intussusception should be performed on the first or second day, other less severe methods of treatment having proved unsuccessful. At this early stage, there is little if any meteorismus and no peritonitis. The later the operation, the less favourable is the prognosis, even in cases where release of the gut has been effected, in consequence of changes in the coats of the invaginated gut, and of the prostrate and perhaps collapsed condition of the patient. The younger the patient, the more urgent is the indication for an early operation. In children under twelve months, intussusception proves fatal in from four to seven days. In patients, aged more than ten years, death occurs usually between the tenth and fourteenth days. Enterotomy performed with the view of keeping the patient alive, whilst the invaginated intestine is becoming detached, is not a promising operation. In infants, such separation occurs in about 2 per cent. of the cases; such a result, when it does occur, does not ensure the ultimate recovery of the patient, as death may occur through perforation, peritonitis, hæmorrhage, or the results of ulceration or subsequent stenosis of the intestine.

The author concludes with the following summary of his views on the operative treatment of intussusception. In every case presenting marked and severe symptoms of obstruction, which have not yielded to any energetic application of medicinal and local treatment, laparotomy should be performed without delay, with the object of effecting a direct release of the invaginated intestine. If the attempt at release should fail, and also in case of gangrene of the intestinal wall, of laceration, or of tumour, resection is indicated. In such conditions, enterotomy presents very unfavourable prospects of success. The formation of an artificial anus, without any previous attempt having been made to effect release of the intussusceptum, is indicated only in cases in which there is considerable meteorism, rendering reposition very difficult if not impossible, and when the patient, through prostration or collapse, is in a very unfavourable condition for laparotomy.

W. Johnson Smith.

Article 5745.

PLUYETTE ON ARTERIO-VENOUS ANEURYSM OF THE COMMON CAROTID ARTERY AND INTERNAL JUGULAR VEIN.

The April number of the *Revue de Chirurgie* contains a report by Dr. E. Pluyette, of Marseilles, of a recently observed case of arterio-venous aneurysm of the common carotid artery and internal jugular vein, which report is followed by deductions as to the causation, symptoms, and treatment of this rare lesion, drawn from this and fourteen other collected cases.

The subject of the case reported in Dr. Pluyette's paper was a man aged 45. The lesion, which had been caused by a stab in the left side of the neck, was treated with some success, simply by rest. Of twelve cases in which the determining cause has been given, in seven this had been a wound from a cutting instrument, in two a gun-shot wound, in one a cut from a fragment of iron, in another a cut from broken glass, and, in one, the abnormal communication between vein and artery seemed to have been produced spontaneously. The right side is more frequently affected than the left side of the neck, in the proportion of two to one. The chief of the objective symptoms is a tumour varying, in different cases, from the volume of a filbert to that of a hen's egg. This tumour is reducible by compression, and is animated by pulsation synchronous with the cardiac rhythm, and perceptible to sight as well as to touch. In most cases, compression gives but little pain and is well tolerated by the patient, but in some instances it causes vertigo and dizziness. In the tumour, a thrill may be readily and distinctly felt by the hand; and, on auscultation, a bruit may be made out, which usually, at an early stage of the case, is audible over the region extending from the base of the cranium to the clavicle, and even in the carotid of the opposite side, in the axillary space, and in the superior intercostal spaces. The patient himself is often conscious of this bruit, which may be so loud as to cause insomnia. In cases of long standing, the extent over which thrill and bruit are perceptible diminishes, and finally is limited to the seat of injury. A special symptom of jugulo-carotid aneurysm consists in dilatation, on the neck, face, and hairy scalp on the injured side, of the afferent branches of the jugular vein. This symptom, though not mentioned in several of the cases that have been recorded, will, the author thinks, necessarily present itself in course of time. In a case observed by Marx, notice was taken of collapse of the tumour during forcible inspiration, followed by slow and progressive reappearance. Diminished pulsation in the superficial temporal and the facial arteries on the side of the lesion, was noted in five cases only. Separation of the fibres of the sterno-mastoid muscle was observed in two cases, and œdema of the neck and upper extremity in three cases. These, however, are symptoms of very little importance, and are due probably for the most part to the original injury. The patient complains at times of temporary and spontaneous pains, due to the pressure of the tumour on the neighbouring nerves. In some cases this pain is replaced by tingling sensations, by numbness, and even anæsthesia. Cerebral disturbances, such as cephalalgia, insomnia, and delirium, when they occur, are to be accounted for by the cerebral congestion resulting from stasis of venous blood. These symptoms disappear as soon as the encephalon has become habituated to this hyperæmic condition. Cardiac palpitation, a symptom observed by Marx, is very rare. Pluyette thinks that it may be readily accounted for by the presence of arterial blood in the right cavities of the heart. The cases of jugulo-carotid communication that have hitherto been reported are opposed to the physiological hypothesis of Larrey, that respiration should be facilitated by the passage into the right auricle of oxygenated blood. Clinical facts seem to indicate that there is, on the contrary, a tendency in cases of arterio-venous aneurysm in the neck to severe cough and dyspnœa.

There can be no doubt, M. Pluyette states, that this lesion is compatible with prolonged existence. Cases have been recorded, in which the patients were living twenty and twenty-seven years after the original injury. Moreover, this variety of aneurysm ceases after a time to interfere in any way with activity on the part of the patient and a return to his usual occupation.

In discussing the treatment of arterio-venous aneurysm in the neck, the author argues in favour of simple expectation against operative interference. The carotid has been tied three times, twice with fatal results, and in the third case without any subsequent change in the condition of the aneurysmal tumour. The subjects of thirteen cases in which there had not been any active surgical intervention were all living at the time the records were taken, and had survived the accident, one by thirteen, one by fifteen, one by twenty, and another by twenty-seven years.

W. Johnson Smith.

Anæsthetics in China.—Some works in the National Library of Pekin contain undeniable proof that Chinese medical men, at an early period, used anæsthetics during their operations. This practice is due to a celebrated Chinese physician who lived at an epoch between the 220th and 230th year of the Christian era. They administered to their patients hachish (cannabis Indica), which rendered them insensible.

ARTICLE 5746.

TESTS FOR ALBUMEN IN URINE.

AN extremely interesting report on this subject was received at the last meeting of the Clinical Society. The committee had investigated the comparative usefulness of the following tests. 1. Dr. Oliver's papers. 2. Dr. Pavy's pellets. 3. Dr. Johnson's picric acid. 4. Sir W. Roberts's acid brine. 5. A solution of picric acid saturated with common salt (picric-acid brine). 6. A solution of potassio-mercuric iodide with citric acid. 7. Nitric acid; *a*, with previous boiling of the urine; *b*, applied according to Heller's method. 8. Acetic acid and heat; the urine being boiled previous to acidification. The conclusions arrived at were: First, that solution of potassio-mercuric iodide with citric acid, particularly when used after Heller's method, gives the most delicate and clearly marked reactions. Secondly, that nitric acid is, for use in the consulting-room, not inferior to any but the potassio-mercuric-iodide test. The committee were able to distinguish by certain tests some forms or states of albuminous bodies from some other states or forms; *e.g.* peptones from egg-albumen, or serum-albumen, or the albumen of albuminous urine.

1. Of all Dr. Oliver's test-papers, the committee consider that the potassio-mercuric-iodide papers give the best and most refined reactions; better, in fact, than the reactions obtained from nitric acid, however applied. The ferrocyanide papers come next, with a decided interval; then the tungstate papers. As both the two first kinds of papers require the use of citric acid in the cold, in order to render the urine decidedly acid, and as this produces a precipitate when an excess of soluble urate is present in the urine, it is pointed out that urine of high specific gravity must be first diluted to avoid this source of error. The mercurio-potassic-iodide papers precipitate all albumens indiscriminately; whilst the ferrocyanide papers do not precipitate artificial peptones. It has been recently pointed out by a writer in the *British Medical Journal* that an apparent fallacy might occur in the use of Dr. Oliver's papers, due to the extreme sensitiveness of the test. One of the iodide papers placed in serum drawn from a hydrocele, was found to become immediately coated with a thick layer of solid albumen which effectually prevented further egress of the iodide salt from the paper into the liquid around it, thus frustrating all further reaction. But when the serum was well diluted with water, the paper at once demonstrated the albuminous nature of the liquid. And, as the writer further points out, it is possible that the same thing might occur in a specimen of extremely albuminous urine.

2. Dr. Pavy's pellets of citric acid and ferrocyanide of potassium give as good results as any of Dr. Oliver's papers; neither the pellets nor papers being quite so searching as the solution of mercurio-potassic iodide; whilst, as the pellets do not precipitate peptones, they may, in conjunction with the iodide solution, be used to distinguish the two kinds of proteid.

3. Dr. Johnson's picric-acid solution is also declared to be most useful, giving reactions only second to those of the mercurio-potassic iodide. Artificial peptones are thrown down by this test; but they disappear on boiling, to reappear as a cloud on cooling. The committee point out certain precautions which should be adopted in the use of this test, and note that it gives a precipitate not necessarily albumen, in the urines of persons taking quinine, which is, however, easily identified.

4. Roberts's brine test is said to be sensitive, and very trustworthy; but is not quite so delicate as the other tests. It does not precipitate peptones or quinine; but allows of the discrimination of mucus from albumen; the cloud of the former being superimposed upon that of the latter.

5. A saturated solution of picric acid and chloride of sodium, being of high specific gravity (and in this respect quite unlike the saturated solution of picric acid, which is of lower specific gravity than ordinary urine, and very diffusible), can be used after Heller's method and gives good results.

6. No. 6 test, the solution of mercurio-potassic iodide with addition of acetic acid, is applicable by Heller's method; and therefore gives indications by contrast, these being of the greatest delicacy.

7. Nitric acid used by Heller's method, on the one hand, and on the other added cautiously in a somewhat diluted state to urine just boiled, is said to be a test of great delicacy, and liable to fewer fallacies than the other tests considered. In its portability it is, however, notoriously inferior to the other tests.

8. Acetic acid, added in sufficient quantity to ensure an acid reaction just before or immediately after boiling, constitutes a test of great delicacy, and one scarcely tainted by fallacy.

Mucin is found to be precipitated by most of the reagents which precipitate albumen, with differences. With the brine test the mucin cloud-stratum appears at a higher level in the fluid than the albumen cloud-stratum; the same indication occurs with nitric acid used after Heller's method. Moreover, mucin cloudiness exhibits not only less ready sedimentation than albumen cloudiness, but it has also a marked satiny appearance when shaken in a good light, and the satiny reflection moves about in the liquid during agitation. It is noted also that in some urines the mercurio-potassic-iodide and picric-acid tests produce a precipitate apparently albuminous when no indication is afforded by nitric acid.

In conclusion the committee think that all the tests have severally an usefulness of their own, and that any one 'devoting himself to the thorough use of one of the tests will be able to decide the presence or absence of albumen in urine as minutely as all practical need demands; that by comparative use of the several tests, discrimination of differing forms of proteids may be obtained, and the error-involving indications of particular tests corrected.' The committee also note that the picric-acid test is further applicable to the detection of sugar by the addition of caustic potash and renewed boiling. The report is signed by Dr. Ord on behalf of the committee; and the profession will recognise that in undertaking the inquiry, and thus recording the results of their labours, the committee have done good useful work. It will also to many practitioners be a matter of considerable gratification to find that heat and nitric acid are scarcely surpassed by any test in the accuracy of their results, and may be thoroughly relied upon for ordinary laboratory work; whilst the difficulty which exists in taking nitric acid about for bedside testing may be avoided by the selection of either of the excellent non-caustic tests upon which the committee has reported.

ARTICLE 5747.

LEMUSEAU ON THE EXAMINATION OF BLOOD IN FORENSIC MEDICINE.

DR. LEMUSEAU, in *Le Moniteur du Practicien*, of April 15, communicates a paper on the progress, during the last half century, in the examination of blood in forensic medicine. The celebrated Orfila, the founder of forensic medicine, treated it, in 1823, for the first time in his lectures before the Medical Faculty of Paris. The method which he proposed consisted in the chemical reactions on blood, previously diluted with water. Orfila's most remarkable reactions are these. A blood-stain, warmed to 25° to 30° C. (77° to 86° F.), will rise in scales, and, when on a steel-plate, will leave the metal untarnished and of brilliant brightness. On heating desiccated blood in a glass-tube, an ammoniacal product will be obtained, restoring the blue colour, of reddened litmus paper. When treated with hydrochloric acid, the stain will neither turn yellow nor disappear, and the iron will not become brilliant, as is the case with a stain produced by lemon-juice or rust. Immersed in distilled water, the stain will form reddish streaks in a downwards direction; its colouring matter will collect at the bottom of the fluid, the latter remaining colourless. The stain will be found converted into whitish filaments of fibrine of the blood. The colouring matter, moreover, presents characteristic reactions. Chlorine will colour it green without forming a precipitate. Chlorine in excess will first discolour the solution, and afterwards render it opaline with a deposit of whitish flakes. Ammonia will not alter its colour, whilst it conspicuously changes the majority of vegetable reds, as alizarine and the purpurine of madder, the hæmatoxyline of log-wood, the colouring matter of raspberries, the carmine of cochineal, &c. Nitric acid produces a whitish-grey precipitate, leaving the fluid almost colourless. The yellow ferrocyanide of potassium does not affect it, whilst an aqueous infusion of galls will produce a yellowish precipitate.

Orfila, however, considers those changes as the most characteristic which result from graduated heat raised to ebullition. Thus a coagulation, or at least a turbidity of greenish-grey colour, will be produced without the slightest trace of a red or rose-coloured tint. On adding a solution of potash, the clots will dissolve or the turbidity disappear, and the fluid will appear reddish when examined with refracted light, and greenish in reflected light.

Persoz, in 1836, proposed hypochlorous acid, which destroys all kinds of stains except those of blood or of rust. This test, however, is very unreliable, and therefore objectionable.

In 1844, Professor Taddei published a paper on blood, entitled *Emétalloscopie*, the principal merit of which is having initiated for the first time the investigations on the differential characteristics of the blood of different animals. His method is the following. The blood-stain is scraped, weighed with most sensitive scales, and treated with the smallest possible quantity of distilled water. Bicarbonate of sodium, equal in weight to the collected blood, and finally a solution of sulphate of copper, are added. This mixture is filtrated after ten to twelve hours, and the residue thus obtained, after desiccation, form what Taddei calls 'la poudre d'interposition' (powder of mediation).

In order to determine the nature of the blood under examination, 15 grains of diluted sulphuric acid (composed of equal parts of the acid at 60° C. (140° F.) and water forming the standard fluid, 'liqueur acide') are added to 10 grains of this powder, and a more or less homogeneous paste will be obtained. This paste varies in viscidity and plasticity, according to the kind of blood experimented upon.

Taddei drew up tables showing the differential characteristics of the human blood and the blood of the ruminants, the equidæ, the rodents, the pachydermates, &c. Curious as the characteristics thus elucidated are, it appears that they have not yet been fully accepted in forensic medicine.

Casanti, a few years later, recommended the use of phosphoric acid. He maintains that the blood of mammalia, when treated with this acid, possesses the peculiar property of agglutinating into a brilliant, homogeneously coherent, viscid mass, whilst the blood of gallinaceous birds is devoid of this quality. On the other hand, human blood will form a very characteristic, extremely brilliant mass, of liver-colour, of the consistency of an extract, but glutinous and very plastic. The value of this method has not yet been sufficiently tested.

After Casanti, Barruel professed to distinguish human blood from the blood of diverse animals by the characteristic smell peculiar to each kind of animal, evolving on treating the blood with sulphuric acid. But the want of scientific exactitude renders this method valueless, in the present advanced state of forensic medicine.

In the recent times we know of four methods of discovering the presence of blood.

The first is that by means of the hæmatine crystals, due to Teichman and improved by Struve and Morache.

The second method is spectroscopic examination, which shows the two characteristic absorption-bands of the oxyhæmoglobuline, of the reduced hæmatoglobuline, of the methæmoglobuline, of the hæmatine, of the hæmatine in acid solution, and of the reduced hæmatine.

The third method is that of Taylor, consisting in the employment of the tincture of guaiacum, which, combined with the essence of turpentine or ozonised ether, yields a beautiful blue colour, if the object of examination contain blood.

The fourth is microscopic examination, especially with Malinin's solution, demonstrating the presence of hæmatines either in groups or isolated, but always with their natural colours preserved. These, according to Bizzozero, can distinctly be recognised even after three years; sometimes, from their diameters, the blood of man may be distinguished from that of other mammalia, the blood-corpuscles of which are much smaller—*e.g.* those of the sheep and the goat, which, however, requires further more precise investigation and proof. Therefore Ch. Firket, with much reason, opposed an instruction published in 1878 by the Société de Médecine Légale de France, which, after stating the dimensions of hæmatines of man and of various domestic animals, prescribes literally, 'the expert has to measure the globules, whereby he will be enabled to ascertain whether the blood be of man or not.'

Moreover, Vibert in a recent publication summarises the following conclusions. '1. It remains impossible to assert with positiveness that a blood-stain is formed of human blood. It is in certain cases only admissible to say that it may be caused by human blood. 2. Sometimes it can be affirmed that the stain is of the blood of some other kind of mammalia, but not of man. But, in order to justify this opinion, it will be necessary that the blood-corpuscles of the alleged animal be much smaller than those of man, and that the investigation be carried on under the most favourable circumstances.'

To conclude, the presence of globulines in the human blood, the possibility of microcythæmia, discovered in 1871 by Van Lair and Masius, will throw new light into this very difficult question, as long as science has not succeeded in demonstrating under what circumstances microcytes occur in the blood.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5748.

HIRT ON TABES DORSALIS WITH PERSISTENT PATELLAR TENDON-REFLEX.

IN the *Berliner Klin. Wochensch.*, No. 10, 1886, Dr. R. Hirt remarks that the absence of the patellar tendon-reflex—often called 'Westphal's sign'—in locomotor ataxy is so constant a phenomenon, that it is almost pathognostic of the disease; any deviation, therefore, from the rule must command attention. If the persistence of this tendon-reflex were merely noticed during life without being succeeded by a *post mortem* examination, its value and significance would be only hypothetical; for it is well known that the symptoms of tabes dorsalis may exist without disease of the spinal cord—owing to disease of the peripheral nerves. But Dr. Hirt gives us a case in which the characteristic alterations in the spinal cord were found *post mortem*.

On April 24, 1884, W. Meritz, aged 57, came under treatment. At the age of 21 he had a chancre and subsequent throat-affection. He was then a soldier. In early life he had been a devoted angler, and had often had his feet in cold water for hours. His present affection dated from 1877. He complained of weakness and pains in the legs, respiratory oppression, difficulty in urination and defæcation, and impotence. On examination, the muscles were strong; there was no atrophy. Except over the face and head there was general cutaneous analgesia, but sensibility to light was preserved; and over both hips were hyperæsthetic zones. There was a distinct girdle-feeling round the body; the temperature-sense was unimpaired. With his eyes closed the patient could not tell the position of his legs when in bed, and was not aware even of one or other being lifted. His gait was weak. The patellar tendon-reflex on each side was distinctly and easily obtained; also the plantar and abdominal reflexes; the cremasteric reflexes were abolished. There was no reflex pupil-rigidity, nor disturbance of the eye-muscles. The pupils were moderately dilated, slowly but distinctly reacting both to light and during accommodation. He had vesical paresis; involuntary slight micturition during cough; voluntary micturition was slowly effected, with burning urethral pains. There were no gastric nor tracheal crises. The above condition lasted unaltered for a year; in September 1885 the pains were very severe; in November the patient had acute double pneumonia, which carried him off. At the necropsy, grey discoloration and atrophy of the posterior columns of the spinal cord were seen by the naked eye on section. This degeneration, which could be seen in the cervical portion, increased lower down, especially in the thoracic portion, where atrophy of the posterior cornua could also be seen; in the middle of the lumbar region, the degeneration was more evident than anywhere else. No degeneration of the lateral columns was seen; the brain appeared normal.

In the other two cases no *post mortem* examination was made. A married woman, aged 46, had had for fifteen years persistent pains in the back of the head; for the last ten years she had been easily tired; double vision occurred five or six years ago for some months, but had not recurred; she had frequent semi-syncope. There had been gradual double atrophy of the optic nerve; the right eye was now amaurotic; in the left the visual acuteness was greatly lowered. In 1882, girdle-sensation and lancinating pains appeared; these last were very severe in 1884. Micturition had been slow and difficult up to the present time. She had had occasional vomiting for eight years. The right side of the face and the right half of the tongue were anæsthetic; there was no atrophy of the latter; the left side of the face and of the tongue was normal. The patient, when lying in bed with her eyes closed, was unaware of the position of her legs. Motility was unaltered; there was no ataxy on walking, no muscular atrophy. Patellar tendon-reflex was normal on each side.

In a third case, a man had a chancre fourteen years previously, followed by secondary symptoms. For six years he had had 'terrible pains in the legs, as if a red-hot knife were stuck into them.' He had had double vision during the last year, and giddiness in the dark; he was easily fatigued. There was no vesical trouble, nor impotence, nor gastric crises. He had ptosis on the right side, and paralysis of the left abducent nerve. There was no optic atrophy, nor hemiatrophy of the tongue. There were local cutaneous analgesic tracts in the upper limbs. The patient could not fasten his own buttons. There was extensive plantar anæsthesia. The patellar reflexes were normal on both sides; the left slightly exaggerated perhaps; the cremasteric and abdominal reflexes were indistinct, the plantar very prompt. Diplopia and lancinating pains were still present.

That these two last cases were also tabetic—the first was certainly so—appears beyond a doubt. In the second case, the degeneration extended further than usual, and involved the ascending sensible root of the right trigeminal. Perhaps the severe vomiting may be referred to affection of the vagus nucleus, as Buzzard assumes. Moreover, in each case the course is typical. In all these cases the patellar tendon-reflex was distinct, and the first case, confirmed by the necropsy, tends to make untenable the usual anatomical localisation of this phenomenon.

E. J. EDWARDES, M.D.

THE annual meeting of the delegates of the learned societies has recently taken place at the Sorbonne. In the medical section many interesting papers were read. M. Castan, of Montpelier, defended the dual theory of scrofula and tuberculosis. He stated that scrofula was very prevalent in the south of France, and tuberculosis very rarely met with there. He considered that a scrofulous diathesis was favourable to the development of tuberculosis, but that they were two distinct diatheses. M. Cagny described the good results in the Duchy of Baden, from the practice of preventive inoculations of pigs against measles. The Government has organised gratuitous inoculations.

Article 5749.

LABORDE AND LEGRIS ON SPARTEIN.

MM. Laborde and Legris, in an article entitled 'La Méthode Expérimentale appliquée à l'Étude des Substances Médicamenteuses,' published in the May number of the *Archives de Physiologie Normale et Pathologique*, come to the following conclusions concerning spartein. Spartein renders the heart-beats stronger and more protracted; its action on this organ is essentially dynamogenic and central in origin. Absence of alteration in pressure and of peripheral or vaso-motor effects constitutes one of the important proofs, and is corroborated by other phenomena; among them those belonging to convulsions and asphyxiation, which indicate a predominant influence of the medulla oblongata and spinal cord. It must always be remembered that in frogs, a long time after actual death, even when the animal begins to dry, the heart beats rhythmically, as though spartein gave an impetus to the strength and length of the beats. MM. Laborde and Legris observed similar phenomena in new-born puppies. No other influence proceeding from the nervous system can be supposed to act in this case than that of intracardiac ganglia. The myographic researches made by these investigators have not at present furnished results that warrant decided conclusions.

The therapeutic properties of spartein were formulated by M. Sée in his paper to the *Académie des Sciences* as follows. It revives the heart-beats and the pulse; in this respect it equals in action digitalis and convallamarine, the alkaloid of lilies of the valley. As a tonic it is more active, more prompt, and more lasting. It immediately regulates the rhythm in cardiac disturbance; in this effect it is superior to any other medical substance. In serious atonic conditions the heart-beats are quickened, and in this respect spartein resembles belladonna. The favourable modifications resulting from the action of spartein occur in one hour, or in some cases a few hours after its administration, and continue two or three days, when its use is discontinued. During this time the general strength is increased, and respiration is rendered easier, but not so effectually as by potassium iodide. The urinary function is not influenced by such small doses as those hitherto used. The more recent researches made by MM. Laborde and Legris lead them to endorse M. Sée's statements, and they further state that the action of spartein is quicker and more rapid than M. Sée observed it to be. A daily dose of sulphate of spartein varies from 5 to 25 centigrammes.

The prompt action of spartein renders it invaluable in heart-disturbance requiring immediate treatment; in instances of asystolia its use is preferable to that of any other drug. In all cases of weak heart with asthenia, sulphate of spartein should be used, whether there be lesion or not. MM. Laborde and Legris declare that they do not know any conditions that should be regarded as indications against the use of spartein; it is not an accumulative substance in small doses, it does not exercise a deleterious effect either on the digestive organs or on the cerebro-spinal system. It can be used for some time without an interruption being necessary. When digitalis is used, in the necessary intervals of administering it spartein sulphate may be given with advantage. In cardiac affections accompanied with dropsy, an infusion of broom-flowers added to spartein sulphate has a beneficial effect, acting as a diuretic. In cardiac dyspnœa, iodide of potassium may be used as well as spartein sulphate, and pyridin inhalations should also be administered.

W. Vignal.

Article 5750.

SORMANI ON BACTERIOTHERAPY IN PULMONARY PHTHISIS.

At a meeting of the Medico-Chirurgical Society of Pavia on March 20, Professor Giuseppe Sormani read a paper on this subject. According to the report (*Gazz. degli Ospitali*, May 19), the speaker first criticised the theoretical foundation of bacteriotherapy. It will be remembered that bacteriotherapy was the name applied by Professor Cantani to the method he introduced of treating pulmonary phthisis by the inhalation of spray containing *bacterium termo*, the micro-organism of putrefaction. (*See* London Medical Record, November 1885). After showing the unsoundness of the principles upon which this line of practice was based, Professor Sormani went on to relate three cases in which the treatment had been rigorously and faithfully carried out, and even for a longer time than was indicated by Cantani. The results were altogether negative. Sormani concludes, therefore, that bacteriotherapy is neither a rational nor a practical mode of treatment. He believes, however, that the inhalation of meat-broth spray may in some cases be useful in allaying troublesome cough, difficulty of expectoration, dyspnœa, and other symptoms. On no account, however, should the *bacterium termo* be added, as it is certainly useless, and may do harm.

In the debate that followed the paper, Professor Riva also attacked Cantani's method. Cantani's treatment was based on the supposition that there was a struggle for existence between the *bacterium termo* and the *bacillus tuberculosis*. But the *bacterium termo* subsisted—not on living structures, but on dead matter. Hence, wherever one might send it, it would not attack the living tissue where the tubercle was proliferating. It would merely cause decomposition of the excretions and of dead tissue; and the product of this decomposition, being in the neighbourhood of a large absorbent surface, might be taken into the circulation and act hurtfully on the organism generally.

In answer to questions it was stated that in one of the three cases where bacteriotherapy was employed the temperature went up some tenths of a degree. Whether the urea was increased or not was not known.

William R. Huggard, M.D.

Article 5751.

CERECEDO ON YELLOW FEVER AND ITS TREATMENT.

Dr. A. M. Cerecedo, of Puerto Rico, contributes an interesting article on yellow fever to the *Siglo Medico* of May 9. He agrees with Dr. Freire of Rio Janeiro as to the bacterial origin of the disease. Freire discovered a microscopic organism in the yellow and in the black vomit, in the saliva, on the surface of the tongue, in the blood and other humours; in all these, he found the cryptococcus present in large numbers. Studying the morphological evolution of the microphyte, he tells us that t presents a stage of growth and a stage of proliferation, these stages being separated by a stationary period varying in duration from two to three days. The stage of growth lasts four or five days, and that of proliferation is followed immediately by a fresh stage of growth of the young organisms.

The first period of the disease corresponds to the stage of growth of the germs, which are developed at the expense of the red corpuscles; these are first altered in shape, and then destroyed. The second period of the disease, which is characterised by a relative depression, in marked contrast to the excitement of the first period, corresponds to the limitation of oxydation in the tissues, caused by the incapacity of the blood-corpuscles to carry oxygen. This period corresponds to the epoch during which numberless spores escape from each mother-cell, and which, following the same evolution as their progenitors, destroy the majority of the blood-corpuscles and give rise to hæmorrhage, black vomit, and that grave ataxo-adynamic state frequent at this period. On the third or fourth day of the disease there is generally a marked remission in the symptoms, and the patient may feel comparatively well. This remission corresponds to the period of complete development of the cryptococcus, which remains stationary before reproduction commences.

The first period of the disease is characterised by intense febrile reaction, cephalalgia, epigastralgia, and pains in the back and joints, facial and conjunctival congestion, albuminuria, and characteristic vomit.

The second period is distinguished by more or less intense jaundice, black vomit, suppression of urine, hæmorrhage, and an ataxo-adynamic condition. These periods are separated by a time of comparative well-being, varying from three to four days, during which the patient may think himself cured, and may wish to get up, eat, &c. This state may be prolonged indefinitely, the abortive form of the disease then resulting. This is much more frequent than indicated by European writers.

Both the first and second period are due to the same cause, that is, to the destruction of the blood-corpuscles by the cryptococci, with this marked difference, that in the first period many corpuscles escape, which, carrying oxygen to the tissues, contribute with the cardiac and nerve irritation, due to the presence in the blood of the parasite, to an exaggerated combustion of which the fever is the logical corollary; while, in the second period, the greater number of the blood-cells being destroyed by the young cryptoccoci, they are rendered incapable of carrying the supply of oxygen; hence the combustion, and for the same reasons the heat diminishes. The return and persistency of the fever throughout the whole course of the disease, after the remission following the original excitement on which Jaccoud insists, is thus not the ordinary rule. It may indeed be said to be very exceptional, and when it occurs it is a favourable prognostic sign, pointing to the relative integrity of the blood-corpuscles. The fulminant form of the disease has one stage only; here the number of germs invading the blood is so large, that the majority of the corpuscles are at once destroyed.

The author is sceptical as to the immunity conferred by long residence in the country and acclimatisation. The natives of Puerto Rico suffer, and with the same symptoms, as recently arrived Europeans. The diagnosis is generally easy, without waiting for the occurrence of black vomit and jaundice. He regards as pathognomonic the presence on the first or second day of black floating particles adhering to the sides of the basin, and albuminuria. The treatment employed by the natives of the country with marked success consists in the administration of emetics, purgatives, and enemata followed by sudorifics. Quinine is useless, and this often helps to clear up the diagnosis. Acidulated drinks and decoction of lemons or lemonade, too, are very useful, and this is recognised by the common people, who consider lemonade a prophylactic. Many microphytes require an alkaline or neutral medium in which to thrive. Freire, Granizo, and Texeira have obtained very striking results with salicylic acid and salicylate of soda. The mortality under this treatment is said to fall to 15, 10, or 6 per cent., according to Texeira even less (*Acad. Imp. de Medicina of Rio Janeiro*, March 29, 1885). Treatment, then, should commence with emetics and cathartics and frequent enemata. On the third day, salicylate of soda should be commenced, and sweating favoured by hot drinks and stimulant frictions. Iced lemonade should be given *ad libitum*. In a future article, the author promises to consider the question of preventive inoculation.

G. D'Arcy Adams, M.D.

Article 5752.

OERTEL ON THE TREATMENT OF DISORDERS OF THE CIRCULATION.

It is not yet two years since Oertel published in Munich his new views on the treatment of disorders of the circulation, yet they have already met with a great amount of acceptance in Germany, and especially among medical men practising at the various baths, who, with very good reason, believe that such plans offer greater facilities for carrying out this mode of treatment than can be enjoyed by patients living at their own homes.

Oertel's general idea is that, in many cases, owing to an accumulation of blood in the venous side of the circulation, the heart has more work to do than it can perform; and therefore his first object is to diminish the amount of work it has to perform by the reduction and regulation of the amount of fluid in the system. His second object is to repair alterations which have taken place in the respiratory and circulatory organs, and the further disturbances in the other organs connected with them, as far as is possible. It is a much simpler matter to effect the first than the second object.

The only way of carrying out adequately such an abstraction of fluid consists in the energetic increase of the watery excretions, and in a correspondingly great diminution in the amount of fluid taken into the body, so that the loss of fluids through the skin and kidneys may no longer be covered by what is absorbed from the stomach and intestines, and that the superfluous amount of fluid in the body—partly in the blood-vessels, and partly in the tissues—may be brought down to a normal quantity. In short, the principle is—withdrawal of fluid, and introduction of only small quantities of it.

Fluid may be withdrawn through the kidneys, or through the intestines; but it can be much more safely removed through the lungs and through the skin. Oertel's grand method of carrying out the latter intention is by exercise in the open air, by ascending heights, and by active muscular exertion producing free perspiration. This is the marked recommendation of Oertel; and wherever there are hills at any health-resort, patients are now advised to follow it; and rival stations compete for superiority in the advantages which they offer in this respect. Rapid excretion of fluid, however, can be produced more quickly than by exercise, by the use of hot-air and of vapour-baths, more especially of the former; and hence such baths, which are now to be found at most health-resorts, are recommended as a substitute, or, at all events, a supplement to the hill-climbing cure. Of course, in such treatment, special attention has to be directed to the condition of the heart; yet it is remarkable to what extent hot air and vapour baths have of late days been considered permissible in heart-affections; but it is agreed that they are entirely inapplicable in mitral stenosis, and especially in disease of the tricuspid valves or of those of the pulmonary artery, and also in affections depending on atheromatous disease of the aortic valves.

The second means of diminishing the current of blood in the system is by cutting off supplies of fluid, by using a diet which shall improve the quality of the circulating fluid. The following are some of Oertel's directions about diet. There must be no long table d'hôte dinners; small quantities of nourishing food must be eaten more frequently. During the meal, no fluid is to be taken. One hour or an hour-and-half after meals, small quantities of light red or white wine may be allowed, wine or water, if possible, to be iced, in case of the patient complaining of thirst. Strong wine, tea, coffee, and beer are disallowed, unless specially ordered by a medical man. As to solid food, Dr. Oertel is liberal, and allows great variety. One must specially avoid fat, soups, potatoes, pastry, puddings, unless they are very light. He hopes by his regulation of the supply of fat, albumen, and hydrocarbons, to favour perfect digestion and perfect oxidation, and thus improve the blood. (It may be remarked, in passing, that Oertel's dieting is considered to be as effective in polysarcia as the Banting cure.)

As to the second object, or the reparation of harm already done to the organs of circulation, something is supposed to be gained by the great improvement that has taken place in the blood, especially in its being less watery; but the greatest change is expected from muscular exertion. We have not space to follow Oertel into the detailed directions he gives as to walking and ascending hills, how the patient must not be tempted by the violent action of his heart to sit down and rest; how, on the contrary, he is to avoid sitting down, and remain standing, supported by his stick or by some fixed point, till the heart has become quiet. Further, the patient, when he has got through his prescribed distance, is not to sit down, but to remain standing until he turns to walk back. By such and by other strenuous exertions the muscles of inspiration are strengthened by deep inspirations; the alveoli of the lungs, before pressed together, are expanded again, and allow air to enter into them, and the function of oxygenation to be performed. At the same time, exercise strengthens the muscular fibres of the heart, relieves it of a portion of its fat, and increases its power of working, which is aided by the improved character of the blood to be propelled.

The various baths are vieing with each other in proclaiming the advantages they offer for hill-climbing; and at Baden and other stations an elaborate system has been introduced, of marking the length and the degree of ascent of every path through the woods.

Those who employ compressed air chambers say that they produce analogous effects, and may be used with most advantage in the case of patients who are not at first able to take the strenuous exercise recommended.

The use of compressed air chambers produces a permanent expansion of the pulmonary space, relieves difficult breathing, and increases the depth of inspirations. During their use, more oxygen is conveyed to the blood, the beats of the heart become slower, and the heart is strengthened. In these days the employment of muscles, and kneading, or massage, going under the name of curative gymnastics, are in great favour; and a claim has been put in for them as subsidiary aids in expanding the thorax and strengthening the muscles of the heart and chest.

Such is a general outline of the doctrines on the improvement of the circulation that are at present current in Germany. Of course, these views have not met with universal acceptance, but the general opinion on the subject is thus represented. 'A patient with an affection of the heart, who was formerly forbidden every exertion, who was to guard against any, even the slightest, excitement of the heart's pulsation, is now told to ascend hills, to excite his pulse, a proceeding which was formerly considered to be certain death, but which is now believed to strengthen the muscles of the heart. The patients suffering from accumulation of fat and from fatty heart, who were formerly ordered drinking cures exclusively, are now told, "Get rid of your water; be thirsty." These are rapid springs in practice, which everyone cannot take at once. But Oertel's principles will eventually be accepted by all. They carry with them such a stamp of truth and simplicity, that it is impossible that they should not be correct.'

That the improvement to be gained by the use of this system should be permanent, it is necessary that the reduced and more solid diet shall continue to be adhered to, and the climbing of hills be continued.

It need scarcely be added, considering the organs that are the subject of it, that this mode of cure is not to be lightly undertaken without the cognisance of a physician.

With reference to the absolute novelty of the hill-climbing recommended by Oertel, it may be remembered that a somewhat similar exercise was prescribed some years ago to patients with pulmonary affections, but not when cardiac complications were known to be present. It remains to be seen how far the new system of treatment will stand the test of time and of experience.

J. Macpherson, M.D.

Article 5753.

THE TRUTH ABOUT ALCOHOL.

In the *Brit. Med. Jour.*, March 1886, p. 504, appears a very important article entitled 'The Truth about Alcohol.' The medical profession share a heavy responsibility in the matter of temperance, and the public look to them for guidance and instruction as regards the use of alcohol. The opinions of medical men on this subject should be well weighed, firmly founded, and free from the reproach of prejudice or passion. Alcohol is not a necessary food, and the most perfect physical and intellectual vigour is compatible with rigid total abstinence. People in perfect health are better without alcohol. Sir Henry Thompson says, 'the habitual use of wine, beer, or spirits, is a dietetic error, say, for nineteen persons out of twenty.'

While alcohol possesses a certain and considerable medicinal value, its therapeutic range is gradually becoming more circumscribed. It must be acknowledged that there are cases of disease in which the use of alcohol is almost essential. In some cases of pneumonia, the benefit from its use is decisive. In typhus and typhoid fever, there are crises when the free use of alcohol seems literally to snatch the patient from the jaws of death. Leaving out the acute pyrexial diseases, the good of alcohol becomes somewhat uncertain. It may be of use in some cases of phthisis, especially as a soothing remedy in the last stage of the disease. With regard to patients suffering from simple debility, anorexia, &c., the decision regarding its use is most anxious and difficult. Many of these cases undoubtedly derive benefit from a little good spirit, or a glass of good port or burgundy. By this means the appetite is improved, and sleep often returns. Yet these are the cases that become inebriates if they do not possess a strong will, and give up the use of the drug when they have received the benefit required. In all cases of hysteria, and in all forms of quasi-hysterical debility, alcohol should be withheld; whilst its use should be strictly prohibited in cases where there is an undoubted hereditary tendency to intemperance. The article concludes by urging the profession to realise their great responsibility, and their immense influence upon the subject of temperance. RICHARD NEALE, M.D.

SURGERY.

RECENT PAPERS.

5754. CLEMOW.—A Case of Revolver Wound. (*Lancet*, June 1886, p. 1109.)

5755. BARWELL.—A Novel Method of treating Thoracic Aneurysm. (*Lancet*, June 1886, p. 1058.)

5756. TREVES.—Rest in the treatment of Scrofulous Neck. (*Lancet*, June 1886, p. 1060.)

5757. BAKER.—A Case of Idiopathic Œdema of the Scrotum. (*Lancet*, June 1886, p. 1067.)

5758. BARKER.—The Removal of Deep-seated Tumours of the Neck. (*Lancet*, May 1886, p. 1011.)

5759. BULL.—On Recurrence of Scirrhus of the Breast. (*Brit. Med. Jour.*, May 1886, p. 974.)

5760. SNOW.—A Method of Approximating the Edges of widely gaping Operation-Wounds. (*Brit. Med. Jour.*, May 1886, p. 974.)

5761. MIALL AND BEEVOR.—Reduction of Dislocation of the Shoulder by Abduction. (*Brit. Med. Jour.*, May, p. 974.)

5762. POISSON.—The Operative Treatment of Traumatic Stricture. (*Gazette Médicale de Nantes.*)

5763. MARKOE.—On Œsophagotomy for Foreign Bodies lodged in the Tube. (*New York Med. Jour.*, May 1.)

5764. BRAMANN.—The Treatment of Arterio-Venous Aneurysm.

5765. TEKÜTIEFF, FEDOR S.—A Case of Traumatic Tetanus ending in Recovery. (*Proceedings of the Caucasian Medical Society*, No. 15, 1886, p. 492.)

5766. MIKHNEVITCH, E. N.—A Case of Dangerous Hæmorrhage after a Leech. (*Vratch*, No. 12, 1886, p. 214.)

5767. RYNDZÏUN.—A Case of Disappearance of Parotitis under the Influence of Erysipelas. (*Meditz. Obozr.*, No. 10, 1886, p. 894.)

5768. ACONTZ.—A Case of Traumatic Tetanus treated by Venesection and Morphine. (*Spitalul*, April 1886, p. 140.)

5769. PARFIANOVITCH, N. A.—On a Case of Sarcoma of the Testis. (*Proceedings of the Kaluga Medical Society*, Oct. 26, 1885, p. 28.)

5770. ROSENTHAL, A.—Spontaneous Fracture of the Femur in a quite healthy Subject. (*Russkaia Meditzina*, No. 4, 1886, p. 71.)

5771. MEYER.—Removal of a Callus by the Galvanic Current. (*Deutsche Med. Wochensch.*, No. 24, 1886.)

5772. CECI.—Extirpation of the Spleen. (*Gazzetta degli Ospitali*, May 23, 1886.)

5773. ASSAKY, DR. G.—On the Suture of Nerves. *Comptes-rendus de la Société de Biologie*, April 9, 1886.)

5774. A Remarkable Case of Traumatic Tetanus cured by Removing Compression from the Radial Nerve.

5775. PEYROT.—On Tendon-suture.

ART. 5754. *Clemow on a Case of Revolver Wound.* In the *Lancet*, June 1886, p. 1109, Mr. A. H. Clemow records a case of bullet-wound perforating the stomach, the patient eventually recovering. The subject of the case was a stout, healthy-looking Frenchman, aged 27, who had attempted suicide. The bullet had entered about two inches below and a little outside the left nipple. On placing the patient under an anæsthetic, an attempt was made to find the bullet; but this did not succeed. Within three hours of the injury, coffee-ground vomiting came on, and was repeated a few hours afterwards. Within thirty hours of admission, there were marked signs of localised peritonitis and pleurisy. On the fifth day after admission, after taking for the first time some nourishment by the mouth, bright blood was vomited, showing fresh hæmorrhage from the gastric vessels; and next day the motions were very dark in colour and considerable in quantity. Fifteen days after admission, blood again appeared in the stools, giving evidence of secondary hæmorrhage. Two or three days later, a fulness was noticed in the back on a level with the point of entrance of the bullet; but this soon disappeared, and the patient left the hospital, apparently quite well, about six weeks after his admission. The author states that he has little doubt from the above facts that the bullet completely penetrated the stomach.

5755. *Barwell on a Novel Method of treating Thoracic Aneurysm.*—In the *Lancet*, June 1886, p. 1058, Mr. Richard Barwell contributes a case of thoracic aneurysm, in which a novel method of treatment was adopted. The author's idea was to introduce a large area of galvanic action into the sac, so that a large firm clot could be formed. To procure this an ivory tube, sharpened like a hypodermic needle, was introduced into the aneurysmal sac, and about ten feet of the finest iron wire was then passed in, so that it could coil itself up in the sac. The wire was then connected with the positive pole of an eight-celled Garnet's battery and a twenty-celled Coxeter's practitioner's voltaic battery. The negative pole was applied to the upper dorsal region, a little to the left of the middle line. The current was passed for one hour and ten minutes. For twelve hours, signs of consolidation were nearly absent. Later on, the pulsation seemed considerably more distant, and the tumour rapidly became harder. Four days after the operation, however, a new tumour appeared to the right of the sternum, and rapidly increased; the patient died in three days, partly from exhaustion and partly from rupture of this second sac. At the necropsy it was found that the aneurysm consisted of two parts; the left portion contained the steel wire and a firm clot, whilst the right half had evidently lately increased in size and had ruptured, giving exit to 2½ lbs. of blood which had made its way into the right pleura. The author remarks that this treatment might have saved the man, if it had been tried sooner.

5756. *Treves on Rest in the Treatment of Scrofulous Neck.*—In the *Lancet*, June 1886, p. 1060, Mr. Fredk. Treves advocates rest as a most important factor in the treatment of cases of scrofulous glands in the neck. It is more necessary to secure constant rest for an inflamed gland, than to consider what application should be used in order to heal these troublesome wounds. In order to attain this rest the author has used a splint, made by Messrs. Krohne & Sesemann. This splint is of felt, freely perforated, and takes its fixed point from the shoulders and back. The centre is strengthened by a slender strip of metal. This strip is carried up along the back of the neck, and at the occiput meets a cross-piece, which is moulded to the outline of the skull. This cross-piece is kept in place by a narrow ribbon, which encircles the forehead. After a few days, the patient can wear the apparatus for months without any inconvenience. With regard to the general treatment, the first thing is to find out the cause of the enlarged glands, and to remove the root of the mischief if possible. It is of little use to rub ointment on a strumous gland in the neck, while the coryza, or sore throat, or eczema of the scalp that caused the enlargement, remains untreated. The next point is to surround the patient with plenty of fresh air and light, a residence by the sea with plenty of seaweed in the locality being most desirable. As to medicines for internal administration, nothing is so good as cod-liver oil, with the addition to the ordinary diet of fat bacon, clotted cream, and the like. When the glands suppurate, it is best to open them with the cautery, if they be near the skin, and fixed, and be too large for scraping, or unsuited for excision. A slender cautery-point is introduced into the gland, and then thrust in many directions. The charred tract does not close easily, and is less painful than an incision with a knife. Old sinuses are best dealt with by free incision, or by dilatation with a sea-tangle tent, and then carefully dressing them from the bottom. A free scraping of the wall of the sinus rids it of useless feeble granulations. In all cases where operative interference is necessary, the main feature is to secure as complete rest as possible.

5757. *Baker on a Case of Idiopathic Œdema of the Scrotum.*—In the *Lancet*, June 1886, p. 1067, Mr. Morrant Baker contributes a case of œdema of the scrotum, occurring in a young man, aged 26, followed by sloughing and cellulitis of the abdominal wall, and eventually recovering. In the *Lancet*, July 1885, p. 154, the author recorded two similar cases, but both died. The subject of the present notice was a cabinet-maker, who was admitted on Feb. 16, 1886, with his scrotum swollen to the size of a cocoa-nut. The perinæum was quite unaffected, and the urethra allowed a No. 8 catheter to pass easily. The urine was loaded with albumen. Incisions were made, and charcoal poultices applied. The sloughing increased for some days, and spread into the lumbar region, so that openings had to be made in the loins, and on passing a probe it was found that the abscess-cavity extended to the pubes. Two counter-openings were made just over the pubes, and drainage-tubes were inserted. The patient made a good recovery, leaving the hospital after about two months' residence. Mr. Baker remarks that the diagnosis between these cases and those of extravasation of urine can be made apart from the history, by the less marked hardness and tension of the scrotum, with usually the absence of any tense swelling in the perineum, whilst the easy passage of a catheter will complete the diagnosis.

5758. *Barker on the Removal of Deep-seated Tumours of the Neck.*—In the *Lancet*, May 1886, p. 1011, Mr. A. E. Barker contributes the notes of a case in which he removed a deep-seated myxo-sarcoma from the neck of a man aged 64. The tumour reached from the anterior of the left sterno-mastoid muscle to the posterior middle line, and from the inferior occipital curved line above for about four inches downwards. The patient having consented to an operation, and the occiput having been shaven and washed, Mr. Barker made an incision, commencing an inch above the superior curved line of the occipital bone, and an inch from the middle line; this was continued downwards and outwards for about two inches, then directly downwards for three inches, so as to expose the origin of the trapezius and its anterior border. It was then found that the splenius capitis was in the way; it was therefore slit upwards nearly to its insertion, and the inner portion was divided transversely above. The tumour was then well seen, still covered by a very thin layer of muscular fibres derived from the complexus. These were torn across at their superior attachment to the bone, and the finger was insinuated between the latter and the growth. The finger was then carried deeper and deeper until the insertions of the rectus capitis posticus, major and minor, and of the obliquus superior, were reached. Finding the tumour well defined in a capsule, Mr. Barker proceeded to separate it from the small rotators, until the spinous processes and ligamentum nuchæ were reached. The tumour lay directly upon these, and here the attachment was firmest. By continuing steadily clearing away with the finger, the tumour was at length isolated and lifted out. Only two small fragments were broken off, corresponding to a spinous and transverse process. There was very little trouble experienced in checking hæmorrhage, and only about four ounces of blood were lost. The cavity, after being dried, and dusted lightly with iodoform, was closed with silk sutures, a drainage-tube being left in the lower angle. The wound was covered with salicylic wool and well padded with cotton-wool, a bandage securing equal elastic pressure all round. The patient made an excellent recovery, leaving the hospital seventeen days after the operation.

5759. *Bull on Recurrence of Scirrhus of the Breast.*—In the *Brit. Med. Jour.*, May 1886, p. 974, Mr. W. C. Bull records the following case of recurrence of scirrhus of the breast many years after removal. A patient had the left breast removed by Mr. Lee in 1872 for scirrhus. In 1875 a nodule recurred in the centre of the cicatrix, which was removed by Mr. Lee. The woman remained in good health till 1886, when two growths were detected, one at the sternal and the other at the axillary end of the original cicatrix. These were removed by Mr. Rouse in May 1886. The woman's age is now 45.

5760. *Snow on a Method of Approximating the Edges of widely gaping Operation-wounds.*—In the *Brit. Med. Jour.*, May 1886, p. 974, Dr. Hubert Snow suggests the following plan for bringing together the edges of the incision in operations on the breast, &c., when a large piece of skin has to be removed. Three or four silk interrupted sutures are inserted about 3 inches or more from the wound, and tied as tightly as possible. A similar row of shorter ones are then inserted about 2 inches from the wound, and then a third series at a still shorter distance. By this means, the edges of the skin-incision are brought (in most cases) so closely together that a continuous horsehair suture will serve to unite the whole length of the wound. The first and second rows are now removed, and those of the third row are retained for forty-eight hours where there is marked tension. Careful support by padding and strapping greatly aids in promoting a successful result.

5761. *Miall and Beevor on Reduction of Dislocation of the Shoulder by Abduction.*—In the *Brit. Med. Jour.*, May 1886, Mr. P. Miall and Mr. W. Beevor each contribute a case of dislocation of the shoulder successfully reduced by Dr. Macleod's method of abduction. Mr. Beevor's patient was a very strong, well built, muscular young soldier, who sustained a severe subglenoid dislocation of the shoulder whilst doing gymnastics. The slightest attempt to adduct the limb caused great pain, and it would have been impossible to reduce the dislocation without chloroform by any of the old methods. The patient was therefore placed on a mattress on the floor, and the limb was gently moved to a position at right angles to the body, the pain being thus completely relieved. The author then placed his heel against the patient's chest, and gradually applied traction to the upper arm, in the 'right angle' direction; the force applied never exceeded more than two pounds, and no pain was given. In about half a minute the dislocation was reduced without pain or spasm, the patient not believing the joint was all right until he found he was able to completely adduct it without any inconvenience. Richard Neale, M.D.

5762. *Poisson on the Operative Treatment of Traumatic Stricture.*—In a paper on Retrograde Catheterism, first published in the *Gazette Médicale de Nantes*, and recently reprinted in the form of a pamphlet, Dr. Poisson insists on the necessity of performing primary external urethrotomy in cases of serious rupture of the perinæum from a fall on to the perinæum. In such cases, Professor Guyon holds, an immediate perineal incision, freely made, and extending to the injured portion of the urethra, is strongly indicated, and is as much an operation of necessity as kelotomy and tracheotomy. A catheter may sometimes be guided along the whole length of the divided urethra into the bladder; but, though the surgeon may fail in doing this through the perineal wound, he will by this incision remove all risks attending infiltration of urine. When it is too late to act thus, and the urethra has become impermeable, and immediate operative interference is necessitated by retention, hypogastric puncture of the bladder will remove all urgent symptoms, and favour an early restoration of the patency of the canal. In practising retrograde catheterism, it is necessary to have a solution of continuity behind the seat of urethral obstruction. Of the two methods of establishing this solution of continuity—namely, suprapubic cystotomy and hypogastric puncture, the latter, M. Poisson argues, is preferable and well adapted to the conditions of the case, being sufficient for the ready practising of retrograde catheterism, and presenting much less risk than the major operation. By the simple proceeding of hypogastric puncture, the inflammatory condition of the injured portion of urethra may be much relieved, and possibly the canal, in the course of a few days, may be traversed by a small instrument passed by the outer meatus. In any case, under the influence of the puncture, the general condition of the patient is improved, the severe suffering of retention is relieved, and necessary time is gained for taking into consideration the re-establishment of the urethra, facilitated by the presence of a vesical fistula. In conclusion, Dr. Poisson states that retrograde catheterism, often necessary to the due completion of external urethrotomy, may be readily carried out by a hypogastric fistula, and that, in every case where it is possible, puncture should be preferred to the more dangerous operation of suprapubic section.

5763. *Markoe on Œsophagotomy for the Removal of Foreign Bodies.*—In the *New York Med. Jour.*, May 1, 1886, is an original communication by Dr. T. M. Markoe, of New York, founded on two cases which in April were brought under the notice of the New York Surgical Society. The author, in his comments on these cases—one of which was successful, the other fatal—after remarking on the slow progress of œsophagotomy in public favour, points out the indications of the operation; and states that when a foreign body has lodged in the œsophagus, and cannot be removed by forceps or from the mouth, and cannot be pushed into the stomach, it should be thus removed, provided it has lodged at a point acceptable to the surgeon's knife, and that the operation should not be delayed in the hope of spontaneous expulsion. The diagnosis usually presents no difficulty. The history of the accident, the sensations of the patient, the behaviour in regard to swallowing, and, above all, the positive evidence afforded by the bougie, in most cases leave but little doubt in the mind of the surgeon, both as to the fact of impaction and of the precise spot at which it has occurred. It is noted, however, that external palpation rarely gives any assistance in ascertaining the presence of a foreign body lodged in the œsophagus. The two prime points in the after-treatment, Dr. Markoe states, are—firstly, the healing of the wound with the least risk of wound-complications; and, secondly, nutrition of the patient, not only with the view of sustaining life, but also of maintaining reparative power at a point at which it will prove itself capable of healing a large, deep, and difficult wound. Distrusting rectal alimentation, Dr. Markoe endeavours to establish gastric alimentation; and so with him the choice of means lies between introducing a tube through the mouth or wound whenever it is necessary to give nourishment, or leaving a tube passed through the mouth or wound constantly *in situ*, thus permitting nourishment being given whenever it is desired. The latter plan is held to be preferable for many reasons. The tube, it is thought, will ensure drainage from the bottom of the deep wound; it might tend to prevent the entrance of any matters regurgitating from the stomach, and it is likely to be much less distressing to the patient than a smaller tube passed through the mouth or nostril. This plan was carried out in the most successful case, and answered

Dr. Markoe's best expectations. The results of œsophagotomy are, it is held, encouraging. Of 82 cases collected by Dr. S. W. Gross, 63 were successful and 19 ended fatally. Of the 82 cases, the foreign body was found and removed in 74; and of these, 57 had a successful and 17 a fatal result. Of the 16 fatal cases of œsophagotomy, 8 are stated to have died of abscess provoked by the lodgment of the foreign body, 2 of exhaustion, 2 of septicæmia, 1 of pneumonia, and the rest not clearly stated. Attention is directed to the evil effects of delay. Two causes contribute to make delay dangerous; first, the tendency of the foreign body—particularly if it be hard and rough—to make its way out of the tube by ulceration; and, secondly, the contraction of the circular fibres of the œsophagus around the intruder. Both these causes, it is stated, are cumulative in their action; and delay, therefore, must be constantly rendering both of them more and more efficient for mischief.

5764. *Bramann on the Treatment of Arterio-Venous Aneurysm.*—A long paper on arterio-venous aneurysm communicated by Dr. F. Bramann, of Berlin, to the fourteenth congress of the German Society of Surgery, concludes with a comparison of the results of different methods of treatment. The tables of 159 cases collected from different sources show, the author states, that digital compression and other bloodless methods, though occasionally successful in the treatment of arterio-venous aneurysm, have not been attended, on the whole, with satisfactory results. Digital compression is very uncertain in its effects, and, to be practised with any chance of success, demands much patience and endurance on the part both of patient and surgeon. It must, therefore, stand below operative methods, by which it is far surpassed with regard both to certainty and rapidity of the curative results. As a preparatory and auxiliary means of treatment, however, digital compression cannot be too highly recommended; since by it the collateral circulation may be established, and serious circulatory disturbances on the subsequent application of the ligature be thus prevented. Reference is made to cases in which, after a first compression of the carotid artery, lasting one or two minutes, had caused vertigo and syncope, the tendency to such attacks was gradually removed by frequent repetition of the treatment, and consequent dilatation of the collateral channels. In the operative treatment of arterio-venous aneurysm, Hunter's operation is to be rejected. The most promising method is ligature of the vessels above and below the lesion with total or partial extirpation, or, in some cases, with simple division of the sac. It is necessary in most cases to lay open the sac, in order that the opening of any lateral branch in the region of the vascular communication and between the ligatures might not be overlooked. In every case of recent wound of a large artery with its vein, in which the nature of the injury is manifested by free bleeding, a characteristic murmur, and alterations of the pulse, the vessels should be tied at once above and below the seat of injury and divided between the ligatures, and at the same time the wounded portions of artery and vein should be cut away. In cases in which the wound has healed and an arterio-venous aneurysm has been fully developed, an attempt may be made, though not for long, to treat the lesion by continuous or intermittent digital compression. If this fail, ligature of the vessels above and below the seat of injury is to be recommended, together with complete extirpation of the sac when this is small and circumscribed, and either partial extirpation or simple incision, followed by plugging, in case of a very large sac or of one with ill-defined wall. The only contra-indication of operative treatment is extreme general disease of the vessels, especially advanced arterial sclerosis. Long duration of the aneurysm does not in itself contra-indicate such treatment. A case has been recorded of successful treatment by operation of an arterio-venous aneurysm in front of the elbow. That had lasted for twenty-five years, and another of a like aneurysm of the femoral of twelve years' standing. With regard to the dilatation of the veins in the affected limb, this always diminishes considerably in size after the operation, and may even disappear altogether. Occasionally, however, after the patient has recovered and taken to active muscular exercise, circulation is re-established in these veins, and dilatation is again observed. This venous dilatation, however, Dr. Bramann states, does not attain so high a degree however as to interfere with the functional activity of the limb.

W. Johnson Smith.

5765. *Tekütĭëff on a Case of Traumatic Tetanus ending in Recovery.*—At a meeting of the Caucasian Medical Society, Dr. Fedor S. Tekütĭëff, of Tchīr-Iürt, made a very detailed communication (*Proceedings of the Caucasian Medical Society*, No. 15, 1886, p. 492) on the case of a soldier who had fallen from a horse and received injuries of his head and of a thumb (a joint of the latter being opened) and in whom, fourteen days later, severe tetanus appeared. The man was treated by warm baths, wet-cupping, and small blisters along the vertebral column, hypodermic injections of morphine ($\frac{1}{6}$ grain), bromide of potassium (two drachms a day), amyl-nitrite (two or three drops, to inhale during a paroxysm of convulsions), atropine (from two to five drops of a solution of one grain of sulphate of atropine in 20 drops of spirit and two drachms of water, to be taken two or three times a day), chloral-hydrate (two drachms a day), chloroform inhalations (a few whiffs during paroxysms). Of these remedies, only two—chloral and chloroform—proved of use. Chloral, especially (even in such small quantities as one or two tablespoonfuls of a solution made of one or two drachms to six ounces of water) is eulogised by Dr. Tekütĭëff as a 'verily specific' arrester and preventer of spasmodic fits, as well as a general sedative and hypnotic. The man's recovery, however, went on rather slowly. Convulsive paroxysms ceased on the thirty-ninth day of the disease. On the forty-fifth, he was able to walk about the room without support. He left the hospital on the fifty-sixth day. In his remarks, the author draws attention to a symptom which he observed in the stage of convalescence, and which is not mentioned in the literature of the subject. It is a 'very peculiar gait and carriage of the patient.' To use a picturesque expression of other soldiers who were at the same time treated at the Tchīr-Iürt lazaretto—'the man walked like a wolf.' 'His body,' the author says, 'was bent forwards; his head was flexed, the chin being rested upon the chest, and his legs trod like sticks, almost without any flexion in the knee-joints.' According to the author, this phenomenon, observed in all convalescents from tetanus, may be explained very simply. 'This emprosthotonos,' he writes, 'during the first days after the cessation of convulsions is a direct antithetic consequence of opisthotonos. The posterior muscles of the body, overtired by prolonged contraction during the disease, on the disappearance of the latter are naturally overcome or overbalanced by their anterior antagonists. The gait with almost immobile, as if ankylosed, knee-joints, results from their prolonged inaction and from extremely one-sided tension of the ligaments.'

5766. *Mikhnevitch on a Case of Serious Oral Bleeding after a Leech.*—In the *Vratch*, No. 12, 1886, p. 214, Dr. E. N. Mikhnevitch describes the case of a middle-aged, moderately nourished, non-hæmophilic peasant woman, who was brought to him with all the usual symptoms of severe acute anæmia, and with incessant spitting of blood. According to her statement, having suffered for three days from toothache, she applied a leech to her gum. The leech fell off, but since then (more than twenty-four hours) the wound was bleeding profusely all the time, in spite of the use of cold and a solution of perchloride of iron. The hæmorrhage was immediately arrested by plugging with styptic cotton-wool (*gossypium ferratum*).

5767. *Ryndzïün on Disappearance of Parotitis after Erysipelas.*—In the *Meditz. Obozr.*, No. 10, 1886, p. 894, Dr. J. Ryndzïün furnishes details of the case of a nurse who was attacked with a severe suppurative inflammation of the left parotid gland, and in whom on the ninth day of the disease there appeared facial erysipelas, which started from a neglected dirty ulcer behind the left ear, resulting from a blister which had been left untouched for two days. On the tenth day erysipelas spread over the left cheek; on the eleventh, the parotitic swelling (which had been large) dwindled to a half of its former bulk, to disappear tracelessly on the fifteenth day. The erysipelas ceased to progress about the same day, the disease being treated by the author's favourite method—consisting in painting the affected parts several times daily with a mixture of one ounce of mucilago gummi Arabici and two drachms of glycerine. Dr. Ryndzïün used the method in several hundred cases of erysipelas (mostly facial) met by him during the last eight years. All the patients made a good recovery.

5768. *Acontz on a Case of Traumatic Tetanus treated by Venesection and Morphine.*—At a meeting of the Societatea Medico-Militara din Jasi (the Jassy Military Medical Society) Dr. Acontz (*Spitalul*, April 1886) related a curious case of a robust trooper who, having received a blow in the hepatic region, instantly fell insensible and remained so for two hours, by the end of which time there suddenly appeared tetanus (trismus). A venesection was performed, and leeches were applied to the hepatic region. Both of the means, however, failed to rouse the patient. He came round only after a hypodermic injection of five centigrammes of hydrochlorate of morphia. The further treatment was expectant. The man improved from day to day, and after a ten days' stay left the hospital quite well.

5769. *Parfianovitch on a Case of Sarcoma of the Testis.*—Dr. N. A. Parfianovitch, of Kaluga (*Proceedings of the Kaluga Medical Society*, Oct. 26, 1885, p. 28), reports an interesting case of a generally healthy and normally developed young man, aged 19, who sought his advice on account of swelling and pain, which occurred after every exertion, in his left testis, which was retained in the inguinal canal. The testis was easily felt just under the skin, close beyond the outer ring, and was of a normal size, while the right organ was very small and flabby. Anxious to meet the patient's desire, the author undertook a reduction of the displaced testis by pressure from above downwards. It glided into the scrotum quite easily and painlessly. The subsequent treatment consisted in applying an inguinal truss, and in the recumbent position. A few days afterwards the patient put aside his truss, and returned to his occupation. Occasionally, after a straining walk, there appeared slight pain in the reduced organ, but otherwise the latter gave no trouble. But about seven months after the reduction, the testis commenced to increase in bulk, and became painful and tender, the symptoms being accompanied by loss of appetite, and producing considerable emaciation. On examination five months later, the testis was found as large as a new born child's head, the scrotal integuments very tense, smooth, and red, the epididymis also enlarged, solid, and elastic. The patient complained of sharp pain in his left hypochondrium where a solid movable tumour, of the size of a hen's egg, apparently in connection with the spleen, was detected. Castration was performed, the testicular tumour proving to be a small-celled sarcoma containing an ichorous focus in its middle. The hypochondriac tumour began to grow rapidly, reaching the navel by the end of two weeks after the operation. At the same time there appeared most agonising pain in both hypochondria, in the spinal and lumbar vertebræ, and around the scapulæ, as well as obstinate constipation with tape-like fæces, and, a month later, paraplegia (both motor and sensory) of the lower limbs, with incontinence of urine, hiccough, dryness of the tongue, obstinate vomiting, clonic convulsions in the paralysed limbs, fever (39° C.), and bed-sores. About two months after the operation, the sufferer died. Two weeks before his death, a rapidly increasing sarcomatous growth made its appearance at the scrotal scar. Unfortunately, no necropsy was allowed. Dr. Parfianovitch believes that the reduction of the testis proved an impulse for its degeneration. Hence he comes to the conclusion that, in cases of inguinal retention of a testis, it would be probably more advisable to perform castration at the spot, without attempting at a reduction. During a discussion which took place after Dr. Parfianovitch's paper, Dr. V. E. Kritchevsky remarked that the testis was probably degenerated when still in the inguinal canal, and that at all events reduction should be attempted before all, in all cases of the kind.

5770. *Rosenthal on a Case of Spontaneous Fracture of the Femur in a Healthy Woman.*—In the *Russkaia Meditzina*, No. 4, 1886, p. 71, Dr. A. Rosenthal, of Zakharkovo, Lgov District, describes the case of a strong, robust, and normally developed peasant woman, aged 18, who, after a spell of field-work, took a nap with her mates, and on awakening, when trying to assume erect position, suddenly felt crackling and pain in her right thigh, and found herself unable to stand on her legs. She was taken home, and was put under the treatment of various 'wise-women' (*Znakharki*) of both sexes, who diagnosed the effects of 'an evil eye' (*dürnoi glaz*), and treated the fracture by various manipulations and remedies, including dry cupping (or rather 'dry potting,' since the Russian peasantry use mostly large earthen pots when cupping glasses are indicated). After three weeks' suffering, the woman was brought to the author's infirmary, where he, conjointly with Dr. Schreider, found a transverse fracture of the lower third of the thigh-bone, and applied immobilising bandage with extension. A month later, the patient insisted on being discharged and was accordingly dismissed with a plaster-of-Paris dressing. On examining her three-and-half months after the accident, the author found that a complete union of fragments had taken place. [A similar case was reported by Dr. J. Pantiükhoff, of Odessa, in the *Russkaia Meditzina*, No. 28, 1885, p. 530. A young, healthy-looking soldier, who several years before had had 'rheumatic pains' in his back, neck, and lower limbs, suddenly felt intense pain and cracking in the right leg when fulfilling the commander's order 'double quick time' during an exercise. A simple transverse fracture about the middle of the tibia, without any displacement of fragments, was found. The injury healed in a month, and the man was discharged. Four days later, when he was rapidly ascending a staircase, the tibia again gave way, and he fell. The fracture took place exactly at the same spot as before. Dr. Pantiükhoff is inclined to believe that the 'rheumatic pains' might be symptoms of a morbid process in the patient's bones.—*Rep.*] V. IDELSON, M.D.

5771. *Meyer on Removal of a Callus by the Galvanic Current.*—Dr. Meyer, of Berlin, relates the following case in the *Deutsche Med. Wochensch.*, No. 24. A boy, 13 years old, had sustained a fracture of the upper arm. After a plaster-of-Paris bandage had been applied, the arm was in three weeks so far healed that the lower and upper arms stood at an angle of 80°, the wrist being tightly drawn up, and the fingers lying without power of motion on the hand. Attempts had been made in vain to produce extension; and, when he was brought to Dr. Meyer, the latter discovered on the inner side of the elbow-joint a callus that occupied a third of the lower arm and had included the flexors of the fingers, thus depriving them of active and passive motion. On the application of the induction-current to the upper arm, there was considerable movement in the muscles connected with the radial nerve; and when the ulnar nerve was brought under the influence of the current a slight movement of the abductor pollicis was observable, while irritation of the median produced a tingling sensation down into the hand. The galvanic treatment was as follows. The arm was laid on a conductor of the size of an octavo sheet, and a small conductor was applied partly to the median nerve and partly to the callus. Frequent voltaic alternatives were sent through, the strength of the current being limited by sickness and dizziness of the patient. After sixty applications, the boy could stretch out his arm fairly straight, and the place of the fracture could now be plainly felt on the inner side of the upper arm. After ninety applications, the callus was reduced one third, the active movement of the elbow-joint was nearly restored, and that of the wrist considerably improved. After 118 applications, the muscles generally were in so good a condition that there could be no reasonable doubt about the perfect restoration of the use of the hand. This, Dr. Meyer thinks, is a proof that of all means the galvanic current is the most intensely sorbefacient.

JOHN ELLIOTT.

5772. *Ceci on Extirpation of the Spleen.*—Prof. Ceci, of Genoa, successfully removed the spleen in a girl, aged 17 (*Gazz. degli Ospitali*, May '23). The patient, who was imperfectly developed and ill-nourished, had had an abdominal tumour from birth. A large floating spleen was diagnosed. It interfered with the patient's walking, and at times gave rise to severe attacks of pain extending from the left hypochondrium to the præcordial region, radiating into the left arm, and followed by dyspnœa and unconsciousness. The removal of the organ was therefore decided upon. The operation was performed on March 20. The strictest antiseptic precautions were used, and the surrounding atmosphere was at a temperature of 30° C. (86° F.) Anæsthesia was commenced with bichloride of methylene; but upon opening the abdomen grave symptoms of suffocation appeared, which necessitated the suspension of the operation for nearly thirty minutes. Chloroform was then employed. The incision was 23 centimètres (9 inches) long; and extended through the linea alba, an equal distance above and below the umbilicus. The pedicle was secured with a triple ligature of catgut and carbolised silk, and was left at the bottom of the wound. The peritoneum was sutured separately. The abdominal walls were fastened by three metallic points, after Billroth's method. The extirpated organ with its contained blood weighed about 2,400 grammes (a little short of 5 pounds). The whole operation, including the above-mentioned interruption, occupied an hour and a quarter. Furious delirium came on the following morning with the nervous symptoms, resembling *angina pectoris*, from which the patient had been in the habit of suffering. For two days, the respirations were from 70 to 80 a minute, and the pulse could not be counted. Under treatment by oxygen and nutrient clysters this alarming state passed off. On the fourth day, fever arose. On the eighth day, the first dressing was removed and the wound was found entirely suppurating. The suppuration, according to the report, yielded to vigorous antiseptic treatment. In the following days, however, occurred two erysipelatous infections, coincidently with the reception of two erysipelatous patients in neighbouring surgical wards. At the time of the report (April 22, 1886) the patient was in excellent condition. The abdominal incision had nearly healed, showing only a superficial wound remaining. This is stated to be the thirty-ninth time the operation has been performed. The mortality has been 78 per cent. WILLIAM R. HUGGARD, M.D.

5773. *Assaky on the Suture of Nerves.*—At a meeting of the Biological Society in Paris, Dr. G. Assaky presented his doctoral thesis on 'La Suture des Nerfs à Distance' (*Comptes-rendus de la Société de Biologie*, April 9, 1886). It may be summarised as follows. When there is loss of substance in the peripheral nerves, it is advisable to join the central to the peripheral extremity by means of catgut sutures; even though the two nerve-extremities cannot be brought into contact, the catgut threads produce excellent results. Experiments made on animals show that this method hastens nerve-regeneration. Sutures at a distance call into play the elasticity of nerves, and lessen the space dividing the extremities. The cicatrix along the track of the catgut thread is richer in newly formed nerve-fibres than when nature is left to repair unaided.

5774. *A Remarkable Case of Traumatic Tetanus cured by Removing Compression from the Radial Nerve.*—A boy 14 years old was admitted to Conrad Brunner's Ward in Zürich for a fracture of the left radius, which had occurred three weeks previously. The fourteenth day after the fracture, the child observed that he could not extend the fingers of the left hand. His parents noticed that when he walked he was bent forward. The symptoms became more and more marked; the child had bad nights, and was sent to the hospital. Symptoms of tetanus were evident—sardonic laugh, teeth firmly set, complete emprosthotonos, the head resting against the breast. On examining the patient, there was evidence of a badly reduced fracture of the epiphysis of the radius, and a bulky callus just below the articulation. It seemed evident that the tetanus resulted from compression of the radial nerve by the callus. The operation decided on showed that there was pressure of the nerve by new formations connected with the callus. The nerve was set free, the prominent portion of the radius being resected; and the symptoms of tetanus slowly disappeared. He was given morphine injections. Three weeks after the operation the patient was cured.

5775. *Peyrot on Tendon-suture.*—M. Peyrot, at a recent meeting of the Paris Surgical Society, read notes on a case of suture under the following circumstances. The tendon of one of the extensor muscles was cut. M. Peyrot sutured the upper extremity with a fragment of tendon removed from a dog. The fragment sutured did not exfoliate, and the normal movements of the hand were partially regained.

W. Vignal.

MEDICINE.

RECENT PAPERS.

5776. Pasteur.—A New Method of Estimating the Condition of the Right Side of the Heart. (*Lancet*, May 1886, p. 914.)

5777. Ashby.—The Connection between Scarlet Fever and Heart-disease. (*Lancet*, May 1886, p. 961.)

5778. Wyatt.—The Connection between Glycosuria and Biliary Construction. (*Lancet*, May 1886, p. 918.)

5779. Pryce.—A Case of Urticarial Asthma. (*Lancet*, May 1886, p. 968.)

5780. Finny.—A Case of Ulcer of the Stomach opening into the Left Ventricle of the Heart. (*Brit. Med. Jour.*, June 1886, p. 1102.)

5781. Waters.—Cases of Lung-disease resembling Acute Phthisis. (*Brit. Med. Jour.*, May 1886, p. 1014.)

5782. Phillips.—The Identity of Membranous Croup and Diphtheria. (*Brit. Med. Jour.*, June 1886, p. 1061.)

5783. Rooms.—Myriapods in the Intestines. (*Archives Méd. Belges.*)

5784. Lockie.—The Connection between the Albuminuria of Adolescence and a Gouty Inheritance. (*Brit. Med. Jour.*, June, p. 1059.)

5785. Goldschmidt, D. G.—On a Case of Perityphlitis. (*Revue de Médecine*, June 10, 1886.)

5786. Finkler.—On the Treatment of Diabetes by Massage.

5787. New Facts concerning M. Pasteur's Treatment.

5788. Krasnovetz, D. K.—A Case of Washing-out the Stomach in Intestinal Obstruction. (*Vratch*, 1886, No. 12, p. 214.)

5789. Guelmi.—Whooping-cough and its Treatment. (*Gazzetta degli Ospitali*, No. 19, May 1886.)

Art. 5776. *Pasteur on a New Method of Estimating the Condition of the Right Side of the Heart.*—In the *Lancet*, May 1886, p. 914, Dr. W. Pasteur calls attention to a distension of the superficial veins of the neck which occurs when, under certain circumstances, pressure is made with the flat of the hand, in the right hypochondriac or epigastric region, whilst the patient is in the recumbent position, the head being turned a little to one side. The value of thus producing pressure under the ribs is, that in cases of heart-disease, or where there are increased difficulties put in the way of the heart's action, one is able to see how much more this organ is still able to bear. When the tricuspid valve is not itself diseased, the amount of pressure needed to produce the filling of the veins from below will enable some idea to be formed of its competency. In cases where the tricuspid is incompetent, the effect of the pressure is to aggravate the conditions under which the heart is already unable to do its work. As a means of diagnosis, and also of prognosis, this pressure-sign possesses much value.

5777. *Ashby on the Connection between Scarlet Fever and Heart-disease.*—In the *Lancet*, May 1886, p. 961, Dr. Henry Ashby contributes a valuable lecture based upon 900 cases of scarlet fever, which have been treated at the Children's Hospital, Manchester, during the past five years. The question is raised as to the part played by the virus of scarlet fever in exciting or predisposing to an attack of rheumatism. The commonest form of joint-affection which complicates scarlet fever in children is a form of synovitis, but it is very rarely accompanied by endocarditis. These attacks differ in many ways from acute or subacute rheumatism; they are more fugitive in character, rarely recurring or returning to a joint when once it has left, and exhibiting an especial tendency to attack the synovial membranes on the backs and palms of the hands, finger-joints, soles of the feet, and cervical vertebræ. The attacks mostly take place from the seventh to the ninth day of the fever. Apart from synovitis, attacks undistinguishable from true rheumatism are liable to occur at the end of the third or during the fourth week, much at the same time as nephritis is liable to supervene. This post-scarlatinal rheumatism is commoner in young adults than in children, and in these attacks endocarditis is by no means uncommon. Cases recovering from rheumatic fever, and then attacked with scarlet fever, often suffer from a relapse of the rheumatism; but in what way the poison of scarlet fever determines the relapse in these cases the author cannot say definitely. Nephritis following scarlet fever is a not unfrequent cause of cardiac lesions. A certain amount of dilatation of the left ventricle, with more or less compensatory hypertrophy, occurs in most cases of scarlatinal nephritis of any severity. Both endocarditis and pericarditis may take place, and occasionally embolism occurs. Occasionally pyæmia complicates scarlet fever, and then periendocarditis often accompanies the attack, which is generally fatal. No doubt in some cases of scarlet fever there is some dilatation of the heart, but this does not amount to anything of consequence, unless there be nephritis as well. In acute nephritis, however, dilatation may take place very quickly, and yet no murmur is detected; and, even when a murmur has been found, the author says he has seen no evidence at the *post mortem* examination of endocarditis. This dilatation may be perfectly recovered from, but many cases end fatally.

5778. *Wyatt on the Connection between Glycosuria and Biliary Obstruction.*—In the *Lancet*, May 1886, p. 918, Dr. W. T. Wyatt records a case which supports the conclusions drawn from experiments performed by Dr. Wickham Legg, by which he found that ligature of the bile-ducts causes the disappearance of glycogen from the liver, and that after ligature you cannot produce glycosuria by puncturing the floor of the fourth ventricle, or section of the cervical sympathetic. Dr. Wyatt's patient was a lady, aged 60, who had suffered for some time from glycosuria in spite of every kind of treatment. A short time ago this patient became jaundiced, the urine containing both biliary acids and colouring matters. With the appearance of the jaundice the sugar disappeared almost entirely from the urine. The jaundice was caused by some obstruction to the bile-ducts, as no bile was detected in the stools, so that in this case there was a pathological condition established, analogous in its results to the experimental ligature. As long as the obstruction lasted the urine was free from sugar, but as soon as the bile returned in the stools the sugar again appeared in the urine.

5779. *Pryce on a Case of Urticarial Asthma.*—In the *Lancet*, May 1886, p. 968, Mr. F. D. Pryce records the case of a lad, aged 16, who was operated on for phimosis; two days afterwards a linseed-meal poultice was ordered to be applied round the swollen penis. Shortly afterwards, the patient complained of great irritation and itching, first over the penis, and subsequently over the whole surface of the body. This was followed by an eruption of urticaria over the whole body. Simultaneously with the cutaneous eruption, the patient experienced considerable difficulty in respiration, which increased in direct proportion to the amount of the urticarial rash, developing into actual dyspnœa when the eruption attained its height. After about three hours, the rash and the asthma coincidently subsided. This condition lasted for five days, the patient having two or three attacks each day. On the fifth day a saline was given with arsenic, after which there was no recurrence of the rash and dyspnœa. The author remarks that he has no hesitation in terming the disease as 'urticarial asthma.' The view that asthma is a neuro-vascular disease was strongly insisted on by Sir Andrew Clark in his paper on 'The Theory of Bronchial Asthma,' read at the meeting of the British Medical Association in Cambridge.

5780. *Finny on a Case of Ulcer of the Stomach Opening into the Left Ventricle of the Heart.*—In the *Brit. Med. Jour.*, June 1886, p. 1102, Dr. Magee Finny records a very remarkable case of ulcer of the stomach. The patient, aged 19, was admitted under the author's care in October 1885, suffering from subacute articular rheumatism. The knees were swollen and painful, and a friction sound was discovered limited only to the sternum. In a few days the rheumatic symptoms disappeared and the pericarditis abated. Whilst the patient was under observation, he had three or four attacks of severe pain, limited to a small area corresponding to the cartilage of the sixth rib on the left side, and also to the region near the coracoid process under the clavicle, on the right side. At the end of a fortnight, however, the patient became more feverish, the fever assuming a hectic type, and it was thought that there was some latent tuberculosis. Albumen also appeared in the urine. About six weeks after admission the patient passed a restless night; next morning he complained of being very weak, and fainted on the night-stool; the dejecta consisted of liquid blood. Half-an-hour later he died, completely blanched. At the necropsy, the pericardial sac was obliterated; the adhesions over the anterior surface were recent, those over the posterior surface and around the apex were old and dense. The valves and muscular structure of the heart were healthy. The stomach and intestines down to the anus were full of liquid blood. The anterior surface of the stomach was adherent to the diaphragm for an area of two inches; the adhesions were not of a dense nature. On examining the interior of the stomach an ulcer was detected on the anterior wall, which had perforated all the coats of the viscus, the tendinous portion of the diaphragm, and the obliterated pericardial sac. The floor of the ulcer was found to be the muscular structure of the under surface of the left ventricle of the heart, not far from the apex. The communication between the stomach and the heart was direct. The cause of the fatal bleeding was found to be a small channel existing in the ventricular wall, and opening into the left ventricle behind.

5781. *Waters on Cases of Lung-disease Resembling Acute Phthisis.*—In the *Brit. Med. Jour.*, May 1886, p. 1014, Dr. A. T. H. Waters contributes a lecture on certain cases of acute inflammatory diseases of the lungs which resemble closely, in their clinical features, acute phthisis. The author draws attention to two forms of acute phthisis: (1) what is known as *acute pneumonic phthisis*, which is a form of scrofulous pneumonia; and (2) the form known as *acute tubercular phthisis*, when the lungs are riddled with tubercles. These cases, as a rule, present no difficulty in diagnosis, but cases do occur which resemble these two kinds so closely that an unfavourable prognosis has been given, and the patients have eventually recovered. Cases of acute tubercular phthisis never recover, but those of the pneumonic form may do so. The following is a brief history of symptoms which came under the author's care, and resembled acute phthisis. A servant, aged 33, was admitted into the infirmary in December 1880, apparently suffering from typhoid fever, together with cough, and extensive subcrepitant *râles* over both lungs. As the case progressed, the symptoms very closely approached those of acute tubercular phthisis. There was evidence of extensive bronchitis, with some consolidation of the right lung. The temperature remained uniformly high, never reaching a great height, and never falling to normal. The pulse remained between 120 and 140, and the respirations varied from 40 to 52 per minute. About three weeks after admission improvement set in, and at the end of four months the patient was sent to a convalescent home, on a fair road to recovery. The treatment adopted was good nourishment, stimulants, and quinine.

5782. *Phillips on the Identity of Membranous Croup and Diphtheria.*—In the *Brit. Med. Jour.*, June 1886, p. 1061, Dr. Leslie Phillips contributes a case in support of the theory that 'membranous croup' and 'diphtheria' are identical diseases. On Feb. 14, 1886, Mr. Smith requested the author to see with him a little girl, aged 5 years, who had gone to bed the previous evening in her usual health. In the middle of the night, she was attacked with 'croup' and high fever. On seeing her next morning at 11 A.M., it was decided to perform tracheotomy. This was done by Dr. Phillips, and the patient was at once relieved. Two days afterwards some pieces of membrane were coughed up, the child dying the same day from asthenia. On the same day that the author performed the tracheotomy, he circumcised a child for congenital phimosis, using the same director and instruments that he had previously employed for the tracheotomy. The instruments had been cleaned in hot, but not boiling water. The case of circumcision did well until the fourth day, when a piece of membrane appeared over the cut surfaces. Next day the membrane extended over the glans, causing retention of urine and œdema of the penis. This membrane was peeled off, enabling the child to freely urinate. The wound was well dusted with iodoform. For the next two days it was necessary to remove the membrane from the glans, as it grew rapidly, and caused retention of urine; after this the membrane was only formed in smaller quantities, and at the end of a week the child was well. These facts seem to prove the identity between what is termed 'membranous croup' and 'diphtheria.'

5783. *Rooms on a Case of Myriapods in the Intestines.*—In the *Archives Méd. Belges*, M. Rooms records the case of a boy, aged 11, who had been growing thin and irritable for about three years. The child was always better during the winter, but worse in summer. One day the boy was given a glass of gin, in which artemisia blossoms had been infused, and afterwards he expelled a quantity of living myriapods. The symptoms improved very much, but the next summer he again became very thin and irritable. A large dose of gin and artemisia blossoms was given, causing him to vomit violently, and many myriapods were expelled from the mouth, nose, and anus. The treatment was then continued every day for a month, when the patient was cured. It was supposed that these insects had been swallowed with some ripe blackberries, and that, owing to their dense skin and peculiar respiration, they had remained alive in the intestines.

5784. *Lockie on the Connection between the Albuminuria of Adolescence and a Gouty Inheritance.*—In the *Brit. Med. Jour.*, June 1886, p. 1059, Dr. S. Lockie narrates some cases of albuminuria in young people. The great characteristic of the affection is the rapidity with which albumen disappears when the patient is confined to bed and kept on milk-diet. The principal complaint made is generally headache and loss of appetite. The author records four cases; and in all there was a history of inherited gout. The mutual relationship of the two affections needs to be worked out by further research.

RICHARD NEALE, M.D.

5785. *Goldschmidt on a Case of Perityphlitis.*—The patient was a student, aged 20, who had already been troubled with symptoms of perityphilitis, but was otherwise healthy. The pain and tenderness in the right iliac fossa returned, and in February of the present year the patient placed himself under treatment. On examination, gurgling was elicited by pressure in the right iliac fossa, which was decidedly tender. The pain was more marked when the patient flexed the hip on that side, or turned suddenly over. There was no fever nor anorexia, but obstinate constipation. He was advised to be careful in the matter of diet, to have warm applications to the belly, and a dose of castor-oil. His condition remained about the same until March 11, when, after a copious repast and unusual exercise, a characteristic tumefaction presented itself in the right iliac fossa, of the size of the fist, scarcely movable and very tender on pressure and on coughing, &c. There was no fever, but the patient was constipated and thirsty. Ice was ordered to be applied over the tumour, with hypodermic injections of morphine if the pain became severe. Liquid diet was ordered. By March 18 the tumour had almost disappeared, but the bowels had not been open for eight days. He was ordered a dose of castor-oil, and was told to keep the motion for examination. The next day, on examining the stool, a small stick-shaped agglomeration of putty-like material was found, 25 millimètres long and 5 thick, thinner at one end than at the other, and with the appearance of having been broken off; it was of a dark-brown colour, and sprinkled over with shining scales. On section, it presented concentric rings of alternate white and brown layers. On analysis, it was found to be composed of fæcal matter, with a large quantity of crystals of fatty acids; no cholesterin. This concretion doubtless formed in the vermiform appendix, which it must have distended. It is difficult to explain how its elimination was effected, ulceration being improbable from the fact that neither blood nor pus was ever seen in the stools. The patient made a rapid and perfect recovery after the passage of this plug, and has not been troubled with any return of the symptoms. ALFRED S. GUBB.

5786. *Finkler on the Treatment of Diabetes by Massage.*—At the Medical Congress held recently at Wiesbaden, Herr Finkler recommended treating diabetes by massage. He tested this method on a considerable number of patients, and ascertained that glycosuria is lessened by it, even when the patients have a mixed diet. A short time after the treatment begins the patients perspire profusely; they also increase in weight.

5787. *New Facts concerning M. Pasteur's Treatment.*—There are one or two new facts concerning M. Pasteur's preventive treatment for hydrophobia which are worth noting. The rabbits inoculated are chloroformed during the operations of trephining and inoculation, which are effected on antiseptic principles as much as possible. The wound is only slightly moistened with carbolic acid; if it were thoroughly washed out with this acid the virus would be destroyed. The bottles in which the cords are preserved are no longer closed at the lower tube by a tap, but by a piece of cotton-wool. M. Pasteur now only makes ten inoculations instead of thirteen, as in the case of Meister, the first patient treated; the inoculations are made every day. The first inoculation is made with a spinal cord that has been preserved fifteen days, the second with a fourteen days' cord, and so on; the last inoculation is made with a cord six days old. M. Pasteur inoculates from cords which have been preserved only five, four, three, two days, or one day, in those cases where the wounds resulting from the bites are especially dangerous, either on account of the region they occupy, their number, or the depth of tissue injured. W. VIGNAL.

5788. *Krasnovetz on a Case of Washing-out the Stomach in Intestinal Obstruction.*—In the *Vratch*, No. 12, 1886, p. 214, Dr. D. K. Krasnovetz, of Briansk, furnishes details of a case of intestinal obstruction where he successfully applied Kussmaul's method of treatment. The patient, a previously healthy worker in ironworks, aged 60, was brought in with abdominal pain, tenderness, and tension, violent vomiting, and general weakness, all of which symptoms had appeared quite suddenly about a day before. For eight successive days the patient's state grew worse, vomiting becoming fæcal. Neither large enemata nor laxatives could relieve constipation. On the ninth day of the latter (and of the disease), the author made the first washing-out the stomach with tepid water (with a slight addition of soda). It markedly relieved abdominal pain, almost entirely stopped vomiting, and gave the patient a quiet night. Henceforward the procedure was repeated twice daily. After the third operation there appeared first small bits of black hard fæces; about half an hour after the fourth, an abundant defæcation followed, and then a steady improvement commenced. Vomiting and the last traces of pain disappeared on the fifteenth day of the disease (on the seventh of the washing-out). Feeling quite well, the man was about to leave the hospital, when he was suddenly attacked with typhus fever (contracted at the hospital). On the eighth day of the latter he died. At the *post mortem* examination there was found peritonitis 'of not very old origin,' with stenosis in the middle of the transverse colon, the constriction being caused 'by underbending of the omentum,' and being passable only for two fingers. There was also a stricture of the ileum, situated 5 centimètres from the cæcum, and caused by firm adhesion and thickening of the intestinal wall.

V. IDELSON, M.D.

5789. *Guelmi on Whooping-cough.*—At a meeting of the Medico-Chirurgical Society of Pavia, Dr. Antonio Guelmi read a paper on the subject (*Gazzetta degli Ospitali*, No. 19, May 1886). He reviewed the evidence touching the nature and etiology of whooping-cough; spoke of the development of the idea of contagiousness according to Pasteur's researches, and, after referring to the researches of Poulet, Lutzewig, and Henke on the micrococcus of the disease, he passed on to the clinical history. He states that, in the absence of complications, whooping-cough is a non-febrile affection. This opinion harmonises with 200 observations. Vomiting, bronchial catarrh, and pulmonary emphysema are frequent complications. Broncho-pneumonia and cerebral affections occur more rarely. As the duration of whooping-cough is long, other illnesses having no connection with it may arise, and may be erroneously regarded as complications. In regard to treatment, empirical remedies, narcotics, and antispasmodics are useful in some cases. In 82 cases, the author had good results from a mixture of chloral, belladonna, and quinine. The balsams are of value in some mild complications. After referring to a great many antiseptic inhalations, he speaks of resorcine, which, according to Moncorvo, is unquestionably curative of the disease. Guelmi used it twice, and it quite answered his expectations. A 2 per cent. solution was employed in spray. The idea was put forward that it might be well first to dull the sensibility of the parts with a 20 per cent. solution of cucaine.

WILLIAM R. HUGGARD, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5790. BARKER.—Permanganate of Potash in Amenorrhœa. (*Therap. Gazette.*)

5791. MURRELL.—On Massage. (*Brit. Med. Jour.*, May 1886, p. 926.)

5792. MURPHY.—Puerperal Convulsions treated with Pilocarpine. (*Lancet*, May 1886, p. 1016.)

5793. MCALDOWIE.—Terebene as a Generator of Ozone. (*Brit. Med. Jour.*, May 1886, p. 1021.)

5794. HART.—Quinine for Traumatic Neuralgia. (*Brit. Med. Jour.*, June 1886, p. 1062.)

5795. SMITH.—On Lanolin. (*Brit. Med. Jour.*, June 1886, p. 1105.)

5796. FENWICK.—Cucaine in Prostatic Retention of Urine. (*Brit. Med. Jour.*, May, p. 999.)

5797. JACKMAN.—Traumatic Tetanus treated with Chloral Hydrate and Urethan. (*Lancet*, June, p. 1112.)

5798. CALLAGHAN.—Poisonous Effects of Cucaine taken Internally. (*Lancet*, June, p. 1149.)

5799. KINNICUTT.—Nitro-glycerine in Bright's Disease. (*New York Med. Record*, April 1886.)

5800. PAVLOVSKY, L. K.—Lanolin as a Basis for Ointments. (*Russkaia Meditsina*, No. 12, 1886, p. 207.)

5801. BÜRJINSKY.—P. V.—On the Absorption through the Skin of Various Drugs mixed with Lanolin. (*Vratch*, No. 23, 1886, p. 421.)

5802. VONGL-SVIDERSKAIA, ELENA F.—On Cucaine Injections in Tooth-extraction. (*Zübovratchebnyi Vestnik*, May 1886, p. 193.)

5803. DE ISLA, E.—On the Treatment of Burns. (*Revista Internacional de Ciencias Med. y Biologicas*; and *Spitalul*, April 1886, p. 145.)

5804. ANTONIU, I.—On the Administration of Digitalis in Large and Repeated Doses in Pneumonia. (*Spitalul*, April 1886, p. 119.)

5805. BRITNEFF.—A Contribution to the Question of the Antipyretic Action of Sulphate of Thallin. (*Russkaia Meditzina*, No. 14, 1886, p. 240.)

5806. VAKULOVSKY, N. N.—On the Therapeutic Action of Urethan. (*Russkaia Meditzina*, No. 14, 1886, p. 252.)

5807. GRINEVITZKY, L.—On the Treatment of Acute Articular Rheumatism. (*Russkaia Meditzina*, No. 15, 1886, p. 260.)

5808. ANJEL.—Oertel's Treatment of Obesity. (*Deutsche Med. Wochensch.*)

5809. PICK.—Inhalation of Carbolic Acid in Whooping-Cough. (*Deutsche Med. Wochensch.*, No. 21, 1886.)

5810. SCHÜLLER.—Massage in Sciatica. (*Deutsche Med. Wochensch*,, No. 24, 1886.)

5811. MONCORVO.—Antipyrin in Diseases of Children. (*O Correio Medico de Lisbon*, June 1, 1886.)

5812. CATTANI, G.—Antipyrin and Antipyresis. (*Gazz. Med. Ital. Lombard.*, April and May 1886.)

5813. CESARI, PROFESSOR.—Antipyrin. (*Giorn. Internaz. delle Scienze Med.*)

5814. UGHI, PROFESSOR E.—On the Action of Urethan. (*Annali di Chim. e di Farmacologie*, April 1886.)

5815. SCHECH.—On Cucaine and its Employment in Diseases of the Pharynx, Nose, and Larynx. (*Der Fortschritt*, May 20, 1886.)

5816. BRANCHE, DR. L.—On the Therapeutic Action of Chloride of Sodium and Mineral Waters containing it. (*Bulletin Général de Thérapeutique*, June 15, 1886.)

5817. GIESEL.--Tests for the Relative Purity of Cucaine. (*Pharm. Zeitg.*, 1886, 16.)

5818. MOSETIG-MOORHOF.—On Iodoform.

5819. BOMBELON.—Santonate of Atropine. (*Pharm. Zeitung*, 1886, p. 230; *Pharm. Rundschau*, Band iv., p. 112.)

5820. COMBY.—Application of Collodion as a Palliative in Small-pox.

5821. LIMOUSIN.—Pichi.

ART. 5790. *Barker on Permanganate of Potash in Amenorrhœa.*—In the *Therapeutic Gazette*, Dr. Fordyce Barker states that he has never known the permanganate to fail in any of the following groups of cases; 1. girls between 14 and 19, who come from the country to finish their education, and suffer from an arrest of menstruation; 2. patients, both young and married, who suffer severely from sea-sickness when leaving some European port within a few days of the menstrual period; with such amenorrhœa is sure to follow; 3. patients between 30 and 40, generally married, some of whom have borne children, who rapidly begin to gain flesh, while at the same time menstruation decreases in both duration and quantity. This is generally attended with annoying nerve-disturbances and mental depression. In all these cases permanganate of potash is said to effect a speedy cure.

5791. *Murrell on Massage.*—In the *Brit. Med. Jour.*, May 1886, p. 926, Dr. Murrell contributes a few remarks on the value of massage as a therapeutic agent. In a crude and primitive form this method was known to the Greeks and Romans, but it has been in general use on the continent for many years, especially in the treatment of chronic joint-affections. Dr. Murrell has met with great success from employing massage in cases of infantile paralysis. It is also of great value in obstinate cases of neuralgia and myalgia. In cases of obstinate constipation, especially in women, massage of the abdomen yields very good results; also in the treatment of corpulence it is very useful, and in many forms of menstrual disturbance it may be prescribed with benefit. This method of treatment must be carried out with great care, and only by those who have been specially trained under an experienced teacher.

5792. *Murphy on Puerperal Convulsions Treated with Pilocarpine.*—In the *Lancet*, May 1886, p. 1016, Dr. Murphy writes that he has met with six cases of puerperal eclampsia during the last three years, and in all the use of pilocarpine proved so successful that he considers this drug almost a specific. One case occurred in a primipara, aged 21. All went well until a few hours after the child was born, when convulsions set in and continued every half hour. On being seen by Dr. Murphy, a third of a grain of pilocarpine was injected into the arm; this was followed in a few minutes by profuse perspiration. Not until after some hours did a slight convulsion occur, and then another dose of pilocarpine was injected. After this, the patient made a rapid recovery.

5793. *McAldowie on Terebene as a Generator of Ozone.*—In the *Brit. Med. Jour.*, May 1886, p. 1021, Dr. McAldowie states that he has found great benefit from the use of terebene, in cases of pulmonary complaints characterised by profuse purulent expectoration. The author attributes this success to the formation of ozone, which attends the slow oxidation of the various members of the turpentine group. Bearing this in mind, Dr. McAldowie has for some time past treated chronic pulmonary cases by exposing terebene and turpentine in the room in flat shallow dishes. It is a well-known fact that the men and girls employed in enamel-painting at potteries are healthier than those employed in other departments. This is attributed to the use of turpentine in mixing the colours. Some reliable statistics on this subject are needed, before any definite conclusions can be drawn.

5794. *Hart on Quinine for Traumatic Neuralgia.*—In the *Brit. Med. Jour.*, June 1886, p. 1062, Mr. F. J. Hart records three cases of traumatic neuralgia cured by quinine. Two were accidents to the shoulder-joint, accompanied by great pain; this was not relieved by chloral and opium, but five grains of quinine produced almost instant relief, and gave refreshing sleep. The third case was one of fractured ribs, in which the patient was very violent and excitable. Chloral, opium, and hypodermic injections of morphine gave little or no relief. Two grains of quinine every four hours soon quieted the patient, and eased the pain considerably.

5795. *Smith on Lanolin.*—In the *Brit. Med. Jour.*, June 1886, p. 1105, Dr. Walter Smith writes that he has employed lanolin in several cases, and feels assured that it possesses many valuable properties. It is a neutral fatty salt of cholesterin, which takes the place of glycerine, the radical of ordinary fats. It has been demonstrated that this cholesterin fat is widely diffused throughout the animal kingdom. It is not a secretion arising from the glands, but a product of retrograde metamorphosis of keratin, or keratin-yielding tissues. Lewin has shown that cholesterin fat can be demonstrated micro-chemically in the granular layer of the skin. The properties of lanolin as an ointment are these. 1. It is capable of absorbing and intimately blending with large amounts of water; 2, it is neutral to test-paper, is not liable to rancidity, and is not easily saponified by alkalies; 3, unlike other fats, it is miscible with glycerine; 4, it possesses the power of penetrating the epidermis in a remarkable degree, and thus facilitates the absorption through the skin of drugs mixed with it. So marked is this, that only about half the usual proportion of poisonous drugs should be prescribed in ointments. The vaselins and paraffins hinder rather than favour the passage of drugs into the skin. The author relates some cases in which he used lanolin with great advantage. The following ointment was most beneficial in a case of eczema of the legs:—Lanolin, ℥ijs.; adipis benz., ʒj.; liq. plumb subacet. fort., ♏xv.; acid. carbol., ʒss.; olei lavand., ♏v. Lanolin does not cause irritation of the skin, and is extremely useful in cases of chapped hands.

5796. *Fenwick on Cucaine in Prostatic Retention of Urine.*—In the *Brit. Med. Jour.*, May 1886, p. 999, Mr. H. Fenwick states that he does not agree with Mr. Buckston Browne in saying that cucaine is of no use in lessening urethral shock during early catheterism. Mr. Fenwick states that we do not possess a more effective or reliable agent than cucaine, in warding off the effects of reflex shock upon the heart and kidney, induced by the withdrawal of residual urine. The entire spongy urethra can be rendered instantaneously anæsthetic by a 20 per cent. solution inserted by a simple medicine-dropper. The deeper urethra and the bladder can be similarly treated with the same solution, ejected from the mouth of a terminally perforated Guyon 'sonde.'

5797. *Jackman on Traumatic Tetanus treated with Chloral Hydrate and Urethan.*—In the *Lancet*, June 1886, p. 1112, Mr. W. T. Jackman publishes a case of tetanus occurring in a lad aged 15. The patient had his right hand crushed by cogged wheels, and one finger was badly injured, but under simple treatment it slowly healed. Five weeks after the accident lock-jaw set in, with marked opisthotonos, and severe paroxysms of pain, especially at night. Chloral-hydrate in twenty-grain doses was given every three hours, giving some relief to the pain, but the other symptoms remained quite as severe. This treatment was continued for ten days, and then discontinued. The patient was then given four grains of urethan every two hours, from 6 P.M. to 6 A.M. The first night of this treatment showed a marked improvement in the symptoms, and a month later saw the lad quite restored to health.

5798. *Callaghan on the Poisonous Effects of Cucaine taken Internally.*—In the *Lancet*, June 1886, p. 1149, Mr. J. L. Callaghan relates the case of a man who applied a 4 per cent. solution of hydrochlorate of cucaine to a bad tooth. He swallowed about twenty to thirty drops of the solution. Half an hour afterwards he was seized with a feeling of faintness and giddiness; then an attack of palpitation came on. Numbness, tingling, and dryness of the throat were complained of, with a sense of flushing, especially up the back. There were marked diminution of smell; great difficulty in producing vomiting; a scarlatina-like rash over the body, especially about the neck; dimness of vision, relaxation of the sphincters, and weakness of the extremities. The mind remained clear, but the pulse was fast, weak, and intermittent.

5799. *Kinnicutt on Nitro-glycerine in Bright's Disease.*—In the *New York Med. Record*, April 1886, Dr. Kinnicutt draws up the following conclusions on the action of nitro-glycerine in Bright's disease. 1. Given in small doses, and frequently repeated, it is a powerful agent for lowering the increased blood-pressure, which is very constantly associated with uræmic symptoms. 2. It has power to control or relieve the headache and asthma met with in these cases. 3. Its influence upon the daily excretion of urine and serum-albumen in parenchymatous and interstitial nephritis is apparently to increase the former and diminish the latter. 4. In the systematic and prolonged use of nitroglycerine in appropriate doses in chronic nephritis, we have a means of maintaining more or less continuously a lowered blood-pressure, and often of averting or relieving critical conditions.

Richard Neale, M.D.

5800. *Pavlovsky on Lanolin as a Basis for Ointments.*—In a preliminary note in the *Russkaia Meditsina*, No. 12, 1886, p. 207, Dr. L. K. Pavlovsky, of Kharkov, writes that his (first in Russia) experiments with Liebreich's lanolin enable him to arrive at the following conclusions. 1. Narcotic extracts, when combined with lanolin, are absorbed by the skin 'quite satisfactorily,' their pain-relieving action being obtained 'with an almost perfect certainty.' The dose used was only twice as large as that for internal use. 2. Hydrochlorate of quinine is absorbed also very easily. [This statement is based on four cases of intermittent fever in children, where lanolin and quinine inunctions rapidly gave the effects desired.] 3. When a lanolin ointment with iodide of potassium is rubbed in, iodine appears in the urine not sooner than two, four, or six hours after inunction [while Lassar obtained iodine from the urine about three minutes after friction]. 4. In children, lanolin is better absorbed than in adults. 5. Washing the skin with ether considerably facilitates the absorption of lanolin ointments. 6. In general, lanolin is a substance which promises to supersede all other constituents for ointments, and even, in certain cases, to render superfluous the internal use of drugs.

5801. *Bürjinsky on the Absorption of Drugs from Lanolin Ointments.*—In the *Vratch*, No. 23, 1886, p. 421, Dr. P. V. Bürjinsky describes the results of his experiments, carried out in Professor V. A. Manassein's clinic. The preparations of lanolin, used by the author, were quite pure (obtained either directly from Jaffé and Darmstäter, or from Professor A. W. Poehl's laboratory in St. Petersburg). The ointments were rubbed with the palm of the hand, under strong pressure, into the internal surface of the arm and forearm, the procedure lasting from fifteen to twenty minutes. Only fixed (non-volatile) and indifferent (non-caustic) substances of known chemical composition (such as ferrocyanide of potassium, hydrochlorate of quinine, salicylate of soda, and salicylic acid) were used. The question of cutaneous absorption was decided exclusively on the ground of the drugs passing in the urine. In seven of twelve experiments (in four with ferrocyanide of potassium, two with quinine, and one with salicylate of soda) the results were entirely negative; that is, not a trace of the drugs employed was discovered in the urine, the analysis being repeated hourly from six to eighteen times. In the remaining five (one with salicylate of soda and four with salicylic acid), there was obtained the well known violet reaction with perchloride of iron; it appeared from one to four hours after the inunction. But the same reaction was obtained, also, two hours after the inunction of the same amount of an ointment made of salicylic acid and hog's lard. Having considered the results above given, Dr. Bürjinsky lays down the following propositions. 1. As far as penetration of drugs through the skin is concerned, lanolin seems to have no advantage whatever, comparatively with other fats used as a basis for ointments. 2. Lanolin is a good constituent for ointments, since (*a*) it is a neutral fat, not liable to become rancid; (*b*) it is easily miscible with glycerine fats, and water; and (*c*) it gives delicate fine ointments. In conclusion, the author draws attention that it is necessary to ascertain whether the process of preparation of cholesterin-fat gives security against any possibility of infection with anthrax.

5802. *Vongl-Sviderskaia on Cucaine in Tooth-extraction.*—At a recent meeting of the First Russian Society of Dentists, Mrs. Elena F. Vongl-Sviderskaia, a dentist of St. Petersburg, made a communication (*Zübovratchebnyi Vestnik*, May 1886, p. 193) on twenty-five cases of tooth-extraction, in which, to relieve the pain of the operation, she had employed injections of a 20 to 30 per cent. solution of cucaine. About a half of a syringeful (containing four-and-a-half grains of the alkaloid, when a 30 per cent solution was used) was slowly injected into three points: into the process of the gum between the teeth, then under the gum on the buccal side of the tooth, and, lastly, at a corresponding spot over the lingual side. After waiting for five or seven minutes, she proceeded with the extraction. In all of the cases, either great relief or complete absence of pain was obtained. As to accessory unpleasant symptoms from the use of such a large dose of cucaine, she noted only mental depression with drowsiness in one case, and intense oppression in the chest, dilatation of the pupils, acceleration of the pulse and breathing, and mental excitement in two others. The remaining twenty-two patients presented no toxic symptoms whatever.

5803. *De Isla on Cucaine and Iodoform in Burns and Scalds.*—Dr. E. De Isla writes (*Revista Internacional de Ciencias Med. y Biologicas*; and *Spitalul*, April 1886, p. 145) that he successfully treats burns of the second and third degrees by painting with a 5 per cent. solution of cucaine, and then by applying an ointment made of four grammes of iodoform, thirty grammes of basis, and cucaine (1 to 50 of the salve). Pain is rapidly relieved, and cicatrisation quickened.

5804. *Antoniu on Large Doses of Digitalis in Pneumonia.*—Continuing (*see* the LONDON MEDICAL RECORD, May 1886, p. 209) his clinical experiments in Professor Z. Petrescu's wards, at Bucharest, Dr. I. Antoniu records (*Spitalul*, April 1886, p. 119) two other cases of pneumonia, in one of which the affection was both-sided and in another right-sided, and which were treated by large doses of digitalis (in the form of an infusion of 4 grammes of the leaves to 200 grammes of water, taken in fractional doses during a day). The patients—lads aged 15 and 16, of a weak constitution—suffered from the disease in a grave form, complicated with adynamia, prostration, and delirium. One of them took 24 grammes of digitalis in seven days; the temperature fell to the standard on the fifth day of the treatment (on the sixth of disease), and he was fairly reconvalescent on the next day, to leave the hospital quite well on the fourteenth. Another youth took the same dose in six days, and was well in ten days. In neither of the lads any awkward accessory symptoms were observed.

5805. *Britneff on the Antipyretic Action of Sulphate of Thallin.*— Supplementing his previous paper (*see* the LONDON MEDICAL RECORD, April 1886, p. 145), Dr. Britneff, of Tzarskoë Sëlo, states that following the advice of Drs. Grocco and Ladenberg, he, in his next series of eighteen cases (four of enteric fever, four of 'febris typhoidea,' three of croupous pneumonia, two of pleuropneumonia, one of catarrhal pneumonia, one of pleurisy, one of abscess, one of coxitis, one of pneumonia with phlegmon) gave thallin in daily doses, from eight to sixteen grains, taken at one time. Under such a mode of administration, the fall of temperature varied from 1°·6 to 4°·1 C. and the duration of the antipyretic action between two and six hours. On the whole, from the present series of observations, Dr. Britneff comes to the conclusion that the most rational mode of administration of thallin is to give from twelve to sixteen grains daily, in a single dose. The advantages are these: *a*, a more intense and more prolonged antipyretic effect is obtained; *b*, profuse perspiration accompanying the fall of temperature, and rigors accompanying re-elevation, come only once a day (while, when small repeated doses are given, sweats and rigors occur as many times as many doses are administered). In conclusion, the author recommends caution in administering thallin to very weak patients, since the drug is apt to produce collapse.

5806. *Vakulovsky on the Therapeutic Action of Urethan.*—Referring to Dr. A. Myrtle's note (*see* the *Brit. Med. Jour.*, 1886, Feb. 20, p. 343), Dr. N. N. Vakulovsky, of Cronstadt, writes (*Russkaia Meditzina*, No. 14, 1886, p. 252) that he tried urethan, in ten-grain doses, in four cases of his own (violent dipsomaniac delirium, rheumatic pains, sleeplessness, and cancer of the stomach). In three cases, the patients complained of great discomfort after taking the drug; and in one (a woman) there appeared headache, sickness, rigidity of limbs, and considerable weakening of the pulse. In none did urethan bring any relief after a day's trial. In all, the author was compelled to fall back on morphia and chloral. Feeling discouraged by his own experience, Dr. Vakulovsky warns his colleagues against the use of the new hypnotic, which 'recalls to his mind the history of benzoate of soda—that is, the history of a drug which proved quite useless in the hands of a vast majority of practitioners, while some of them obtained lucky results.' The author mentions a case where 'benzoate of soda brought about pulmonary hæmorrhage in a consumptive patient.'

5807. *Grinevitzky on Nitrate of Potassa and Mercurial Inunctions in Acute Rheumatism.*—In the *Russkaia Meditzina*, No. 15, 1886, p. 260, Dr. L. Grinevitzky, of Rostov-on-Don, eulogises the treatment of acute articular rheumatism by the internal use of nitrate of potash (two drachms daily, in a solution with raspberry syrup, a tablespoonful every two hours), and by the inunction of a mercurial ointment. (The author's formula is this: ℞ Ol. hyoscyami, ʒj.; ung. hydrarg. cinerei, ʒij.; ext. aconiti, ʒj. M. To rub in the joints affected every morning and evening.) Fever gradually abates; the pulse becomes less frequent; articular pain, swelling, and heat decrease. The patient recovers in one or two weeks, according to the severity of the disease, and its duration before coming under treatment. When resorted to in the very beginning of the affection, the treatment prevents spreading of the latter to other joints, or, at any rate, mitigates any subsequent symptoms. The author's assertions are based on an experience of more than twenty years' duration. None of other old or new antirheumatic remedies can compete with nitrate of potassa, as the author says. Frictions alone only somewhat mitigate the symptoms, but do not cure the disease, while the salt alone acts well, though recovery then becomes more protracted than where the inunctions are employed simultaneously. In conclusion, Dr. Grinevitzky states that, for the sake of comparison, he tried to treat some cases of rheumatism by nitrate, carbonate, and subcarbonate of soda, and by carbonate and subcarbonate of potassa, and 'did not obtain from them any use whatever.' [Therefore, the author comes pretty near to the opinion of Martin Solon, who about forty years ago (1843), taught that nitrate of potassa was a specific for acute rheumatism, and gave enormous daily doses, varying between 20 and 50 grammes, 'with the best results and without any untoward symptoms.' *See* Hermann Hager's *Handbuch der Pharmaceutischen Praxis*, 1883, vol. i., p. 268.—*Rep.*] V. IDELSON, M.D.

5808. *Anjel on Oertel's Treatment of Obesity.*—Dr. Anjel, who has a hydropathic establishment at Zuckmantel, in Austrian Silesia, disapproves of Oertel's plan of depriving his patients of fluid. His own method is this. Patients suffering only from obesity, and those with compensated disturbances of the circulation, he puts on a diet consisting of meat and plenty of vegetables with very little farinaceous food, whilst he prescribes exercise along with proper hydrotherapic treatment, and forbids alcoholic drinks. Such patients are to abstain from fluids only at dinner (soups included), but an hour after dinner they may take fluids in considerable quantities. In cases of compensated disturbance of the circulation, as well as in those of secondary kidney-disease, much milk is given. In many cases, the want of water causes much disturbance. In fact, it causes inanition, since painful thirst often prevents a patient from taking sufficient solid nourishment. It is to this that the more rapid decrease of weight must be ascribed. Many become neurasthenic and dyspeptic, and nearly all complain of bad nights, frequent attacks of vertigo, palpitation, nervousness, and mental irritability. And particularly for patients with secondary kidney-disease or albuminuria, the want of fluids is very weakening. This latter Dr.

Anjel ascribes to the fact, that the loss of albumen from the blood is not easily compensated by solid food, irrespectively of the loss of appetite from thirst. Now milk, which may be taken in large quantities by such patients, supplies the albumen. Lastly, the general physical discomfort caused by thirst has psychically a bad effect on those suffering from the kidneys, and this is generally recognised to be very detrimental. Nor is the feeling of thirst a *sine quâ non* to the proper treatment of obesity. Dr. Anjel's patients who were allowed to take fluids lost on an average 5 lbs. to 6½ lbs. in the first four weeks, and that without detriment to their general health.

5809. *Pick on the Inhalation of Carbolic Acid in Whooping-cough.*—Dr. Pick of Coblenz (*Deutsche Med. Wochensch.*, No. 21) considers that, of all remedies for whooping-cough, the inhalation of carbolic acid deserves most attention and confidence, because the presence of infectious matter in the air-passages is the cause of the disease. Though there may be much doubt as to the nature of the virus, it may be accepted as certain that it is merely a question between different kinds of fungus-spores. And many have observed a diminution in the frequency and intensity of the attacks after inhalation of diluted carbolic acid, although it has not been proved, or only in a few cases, that the course of the disease has been materially shortened by this treatment. But he thinks that the fault has lain, firstly, in the too slight concentration of the carbolic solutions used, and secondly, in the improper mode of conducting the inhalation. Hence he determined to use a more concentrated solution, considering that there was no fear of poisoning by inhalation, since the greater part of the acid is doubtless forced out again during expiration, as is the case with nitrous oxide. But thus the fungi in the air-passages receive a double current of air laden with carbolic acid. The following is his mode of procedure. A small ball of wadding saturated with from fifteen to twenty drops of pure liquefied carbolic acid is placed in a mask which is worn the whole day, if possible, but at least for from six to eight hours daily, the wadding being renewed three times a day. The urine must be daily examined for traces of carbolic acid. The mask must be light so as not to interfere with talking or playing. Several cases showing the efficacy of this treatment are related. Dr. Pick considers it thus proved—(1) that the period of the cough is considerably shortened by the inhalation, and (2) that even long-continued inhalation of pure or nearly pure carbolic acid causes no disturbance of the general health nor any symptoms of poisoning. He admits that his observations are too few to enable him to meet with certainty the obvious reply, that these cases may have belonged to such as are sometimes met with, in which the cough disappears in a fortnight without any special treatment. But he recommends further trial of this method. In conclusion, he reminds medical men that, if they do adopt an antibacterial treatment, they must use the antiparasitic remedies in such concentration as to render them really effective.

5810. *Schüller on Massage in Sciatica.*—Dr. Schüller holds (*Deutsche Med. Wochensch.*, No. 24, 1886) that baths and the use of electricity cannot be entirely relied on as remedies in sciatica. Not only is the treatment by baths often tedious, but it often altogether fails. Nor is surgical treatment, such as cutaneous cauterisation or subcutaneous injection, or stretching of the nerves, more certain. But he has found massage yield more speedy and lasting results. The massage specialists, however, seem to have ignored the benefits of this method in the treatment of sciatica. He was led to adopt it in a stubborn case that occurred after the treating of a fracture of the internal condyle of the femur complicated with subluxation of the knee, which had been previously injured. Here massage gave good results. At first Dr. Schüller used at the same time electricity, warm baths, vapour baths, or carbolic injections. But since 1882 he has treated fifteen cases almost exclusively with massage. All the patients were men—chiefly workmen—but some commercial and official men. In most the disease was ascribed to a chill, but in some cases the cause was traumatic. In each case he himself did the massage for the first few times, then handed the patient over to trained assistants to continue the massage under his supervision—daily in most cases. The patient lies on his good side, the hip and knee-joints being slightly bent. The rubbing is done upwards along the course of the sciatic nerve, now with both thumbs, now with the ball of the little finger or of the thumb; then the part is knocked with the closed fist, and then the muscles are pressed down over the nerve with both hands, kneaded, &c. At first, there is always much pain, but this soon ceases. Even the neuralgic pains soon abate, and after each operation the patient is able to walk better. The average time required for recovery was two and a half weeks; the shortest being nine days and the longest five and a half weeks. In the latter case, massage was done daily for the first fortnight, and then every other day. Dr. Schüller thinks that this method is particularly adapted to cases in which sciatica arises from injuries or chills, whilst in cases of central derangement it is not, or only seldom advisable, except sometimes in conjunction with other remedies. John Elliott.

5811. *Moncorvo in Antipyrin in Diseases of Children.*—From its activity, from its almost mathematical regularity of action, and from its complete harmlessness in moderate doses, antipyrin is the most powerful and least dangerous of the antipyretic agents at present employed in infantile therapeutics. Administered in the course of inflammatory affections, specific or not, of the respiratory apparatus (bronchitis, broncho-pneumonia, pulmonary tuberculosis), defervescence is, almost without exception, rapid, more or less lasting, and accompanied by improvement in the local state. In tuberculosis, the continued administration of this drug often determines a very favourable modification of the general nutrition; the appetite returns, the insomnia disappears, and often even the cough is relieved. In the treatment of acute malarial poisoning, antipyrin, contrary to what has been affirmed by most observers, has proved to be most efficacious. In severe cases it is very useful, facilitating the prompt absorption of the salts of quinine. In some cases of acute rheumatism, its action is compared with that of salicylate of soda. In many surgical affections with septicæmia, it is also most useful. The defervescence caused by antipyrin occurs with almost mathematical regularity in children of all ages. It lasts from six to twenty-four hours. The succeeding rise of temperature occurs almost always insensibly; this is not the case if carbolic acid, kairin, or thallin, be given instead. Sweating and vomiting are never serious. The adynamia, much feared by some authors, was not seen in more than one hundred cases, not even in a child 13 days old, to whom a gramme was given in half an hour. This adynamia, sweating, and cutaneous eruptions are almost always the consequence of very elevated doses. The frequency of the pulse is never diminished in proportion to the fall of temperature. The urine is diminished in quantity, and is perfectly proportional to the amount of sweating. Albumen was never found in the urine of children submitted to the action of antipyrin; on the contrary, in a child suffering from epithelial nephritis, the albumen was considerably diminished under the treatment. The mechanism of the action of antipyrin is probably to be explained by a dynamic modification of the calorigenic centre of the medulla oblongata.

5812. *Cattani on Antipyrin and Antipyresis.*—Antipyrin causes a marked fall in febrile temperature. It is generally well to give a large dose at first, followed by smaller doses, which are then sufficient to maintain the antithermic action. The dose varies with the rise in temperature; in high and continued fevers, doses of at least 6 grammes are necessary; in fevers intermitting or with marked remittance, 2 or 3 grammes are sufficient. The dose of 6 grammes may be safely exceeded when the therapeutic action is not obtained, and when not contra-indicated by other phenomena (depression, vomiting, &c.). Antipyrin does not prevent the fever, but may determine an apyretic or almost apyretic course in a febrile disease, on which it has not in the majority of cases any influence in cutting short the disease. The fall in temperature caused by antipyrin is always accompanied by a marked sense of well-being, even when it causes vomiting. Rarely, the organism becomes habituated to the drug, and then it is well to suspend its use for one or two days. It may cause a rash, which, however, is innocuous. Collapse is very rarely seen. Vomiting is the most constant trouble; this may be avoided by giving divided doses dissolved in sweetened red wine. Antipyrin may be given with many other substances, without impairing its efficacy. In typhoid fever, although it does not shorten the course of the disease, it mitigates the intensity of the symptoms, and renders the attack much less grave. In acute articular rheumatism, it not only cuts short the fever, but completely overcomes the pain, succeeding even when the salicylates have failed. In croupous pneumonia, its effects are not so evident; in malarial fevers it is of no use. Cattani concludes that antipyrin is the best antipyretic which we have at present.

5813. *Cesari on Antipyrin.*—The author concludes that antipyrin lowers the temperature in febrile and in apyretic states; it retards respiration, but causes no alteration in the cardiac pulsations; it produces mydriasis; absorption is rapid, and so is elimination by the urine. It acts on the central and peripheral nervous system, producing in man a sensation of heat in the head, accompanied by slight burning; in animals it increases reflex excitability, and causes paralysis, convulsions, and death by arresting the heart's action. In man, it may cause vomiting. It is to be preferred to kairin, as it does not cause collapse and cyanosis and nerve-disturbances; to resorcin, which excites the cardiac vascular apparatus; and to salicylic acid and the salicylates, which cause depression of the cardiac activity and diminution of the excitability of the nerve-centres.

5814. *Ughi on the Action of Urethan.*—Urethan is a carbonate of ethyl, prepared by treating chlorocarbonate of ethyl with ammonia. It is recommended by Schmiedeberg as a hypnotic. According to Jaksch, in doses of one gramme it produces a natural sleep, is well borne, and has no influence on pain. Riegel and Huchard also confirm its hypnotic action. Professor Ughi finds that during the period of narcosis it reduces the temperature in the rectum, conspicuously in rabbits and slightly in man. Other narcotics do the same, but urethan differs by reducing the temperature without altering the respiration. It produces a slight diminution in the elimination of carbonic acid. In rabbits, in doses of two to three grammes, it causes sleep with loss of consciousness and movement, diminution of the rectal temperature from one to three degrees centigrade, diminution of several centigrammes in the hour in the elimination of carbonic acid, and diminution of the electric excitability of the brain. In man, the hypnotic effect of doses of two to three grammes is not constant. There is often a diminution of several tenths of a degree in body-heat. Although without effect on the circulation, it cannot take the place of chloral, to which it is inferior as a hypnotic. It is well tolerated; in doses of four to six or ten grammes, it causes pain in the stomach.

G. D'ARCY ADAMS, M.D.

5815. *Schech on Cucaine and its Employment in Diseases of the Pharynx, Nose, and Larynx.*—Dr. Phil. Schech, Lecturer at the University of Munich, communicates (*Der Fortschritt*, May 20) a concise survey of the use and the effect of cucaine in various affections of the pharynx, the nose, and the larynx. It is most commonly applied in a 1 to 20 solution by means of a sponge or brush, but the most careful proceeding in treating the larynx will be instillation by means of a laryngeal syringe. For the nose and the larynx also inhalations or spray (¼ to 2 per cent.), and insufflation of a powder composed of cucaine 5 parts and starch 160 parts, are frequently resorted to. The property of cucaine, of diminishing reflex action, proves of high value in the examination of the larynx and the naso-pharyngeal space, in the diagnosis and the removal of foreign bodies, and in operations in these regions. Cucaine, however, has no effect in the extremely painful phlegmonous inflammation of the soft palate and of the tonsils, the deeper strata not being acted upon; somewhat better results are obtained in catarrhal and follicular angina. In tuberculosis of the pharynx and the larynx, cucaine is of the highest value, not for its possibility of curing this pernicious disease, but for its enabling the patient to take more solid food, of which he had been so long deprived. Cucaine possesses a powerful vaso-contractile action on the soft mucous tissues of the nose. A few minutes after the application of cucaine, the turgid spongy membrane will contract and tightly adapt itself to the bone, thus enlarging the nasal ducts to double of their previous width, which is of great value in the diagnosis of small polypi, of affections of the bones, and of foreign bodies. For the like reason, cucaine proves an efficacious remedy in coryza. Also in the treatment of asthma cucaine has been found beneficial, and in whooping-cough inhalations of a ⅓ to 1 per cent. solution have been of undeniable effect. Notwithstanding, it must be admitted that cucaine in some instances, especially in some complaints of the larynx, has entirely failed; and that, as with other anæsthetics, a certain degree of tolerance is soon established; in consequence of which the anæsthetic action of cucaine, even when given in larger doses, will frequently more and more diminish. Iodine is an extremely delicate and characteristic reagent for cucaine; a few drops of tincture of iodine or of a solution of iodide of potassium will produce a precipitate, varying according to the quantity of cucaine present, within all the hues of the chromatic scale from whitish-yellow to orange colour. Ferd. Adalb. Junker, M.D.

5816. *Branche on the Therapeutic Action of Chloride of Sodium.*—After dealing with the physical and chemical properties of this salt, and its physiological action on animals and plants, Dr. Branche gives the results of his own observations in man. The blood, the saliva, and the urine show a notable increase in the proportion of the salt a few minutes after its ingestion. Its effect on digestion is not only to augment the secretion of gastric juice, but also to increase its acidity. After taking ten grammes daily, more than the usual quantity, for two months, the number of blood-corpuscles was found to have increased, with a diminution of the albumen and watery constituents of the blood. The excretion of urea is increased, either owing to better diffusion or to acceleration of organic combustion. With ten grammes daily in addition to the ordinary consumption of salt, the amount of urea was augmented to the extent of four grammes (Rabuteau). Although certain advantages appear to follow a slight increase in the quantity of salt taken, an excess is certainly injurious; in one case death followed the ingestion of 500 grammes of sea-salt. This toxic effect, however, has been denied. Deprivation of the ordinary ration of salt is rapidly followed by general feebleness, albuminuria, and anæmia. The condition likely to derive most benefit from a course of treatment with chloride of sodium is (according to Dr. Branche) struma, but anæmia and tuberculosis are also improved, if not cured. Dr. Pidoux recommends phthisical patients to eat largely of salt at meals. Goat's milk, rendered saline by the addition of twelve to fifty grammes of salt to the diet of the animal daily, is highly spoken of. Bouchardat has remarked that well-salted meat diminishes the thirst of diabetic patients to some extent, and lessens the excretion of sugar. In the form of baths, its good results are well known in the treatment of chronic rheumatism, gout, gravel, and biliary calculi. Several observers have seen malarial fever arrested by doses of salt varying from ten to fifteen grammes. In solution, it has been recommended for intravenous injection for cholera, and to destroy the *oxyuris vermicularis* in children. The effect of salt is antidotal to nux vomica and curare, and to lead and silver salts. The necessity for avoiding the ingestion of salt in any form for some hours after the administration of calomel is, or should be, well known. In conclusion, Dr. Branche points out the benefit to be derived from the use of mineral waters of the Friederichshall type, containing chloride of sodium, whereby the depressing effects of saline laxatives is counteracted by the salt.

Alfred S. Gubb.

5817. *Giesel on Tests for the Relative Purity of Cucaine.*—F. Giesel (*Pharm. Zeit.*, 1886, No. 16) recommends the following tests for the purity of cucaine or its salts. Pure cucaine solution, when mixed with solution of potassium permanganate in the requisite quantity, yields a fine violet precipitate of cucaine permanganate, which is crystalline if the solution be very dilute. On heating a solution of pure cucaine or its hydrochloride mixed with potassium permanganate in excess, no manganese dioxide is formed. When commercial cucaine salts are heated in solution with potassium permanganate, a strong odour of bitter almond-oil is produced; but no such odour is developed by solution of pure cucaine or its salts when similarly treated. The author (*Chemisch-technischer-Central-Anzeigen*, April 1, 1886) relies upon the formation of the violet precipitate with potassium permanganate, upon the non-precipitation of manganese dioxide on heating with that reagent, and upon the absence of the odour of bitter almond-oil in the same circumstances, as proofs of the purity of cucaine and its salts.

G. Stillingfleet Johnson.

5818. *Mosetig-Moorhof on Iodoform.*—Professor Mosetig-Moorhof considers that iodoform is the best antiseptic in time of war. It does not irritate the wound, and its action is invariable and permanent. At Belgrade, where this antiseptic was used, there were only nineteen deaths among 824 wounded. Iodoform is less caustic than other antiseptic substances.

5819. *Bombelon on Santonate of Atropin.*—The difficulty in keeping atropine solutions made it desirable to prepare one that is stable for the use of oculists. Herr Bombelon (*Pharm. Zeitung*, 1886, p. 230, and *Pharm. Rundschau*, 1886, p. 112) believes that santonate of atropine is stable, and does not undergo any change by being kept; in solution it is not irritating; its mydriatic properties are equal to those of atropine. One drop of solution of santonate of atropine (1 centigramme in 20 grammes of water) dilates the pupil in ten minutes, and the effect lasts from ten to twenty-four hours.

5820. *Comby on Application of Collodion as a Palliative in Small-pox.*—At a recent meeting of the Société des Hôpitaux, M. Comby stated that the different local remedies which from time to time have been recommended for arresting the variolic eruption have all, in their turn, been rejected as dangerous. M. Comby mentioned the following case as an example. A female patient entered the St. Louis hospital with small-pox. Her face was covered with collodion; papules appeared on the trunk and limbs, but the face seemed to be free from eruption. On April 10, papules appeared on the upper lip and raised the collodion; the eruption spread entirely over the face, and showed through the covering of collodion; the patient suffered intolerable agony. An attempt was made to remove the collodion, but the patient suffered such dreadful pain that it had to be given up. The portion of collodion that was separated from the face left the derma exposed to the air; the eruption extended to the limbs, and the face was transformed into a running sore, most offensive in its odour. The temperature rose to 39°·4 C. (102°·3 F.); on April 15, the patient became delirious, and died. At the necropsy, all the viscera were found to be healthy. If the patient had not died, she would have been terribly disfigured by buccal or palpebral atresia.

5821. *Limousin on Pichii.*—At a recent meeting of the Therapeutical Society, M. Limousin showed a specimen of pichü, or piché. It was a solanum, to which the Chilians gave that name. It had recently been introduced into France. In its native country it was believed to disintegrate urinary calculi. M. Limousin prepared a fluid extract of pichü, of which four dessert-spoonfuls represented thirty grammes of the plant, the dose generally administered in twenty-four hours. M. Limousin believed that piché acted specially on the mucin, which held together the different elements of calculi, and dissolved it and lessened vesical catarrh, in consequence of the resin it contained. M. Dujardin-Beaumetz confirmed this statement.

W. VIGNAL.

OPHTHALMOLOGY.

RECENT PAPERS.

5822. PIERD'HOUY.—The Second Attempt to Engraft the Eye of a Rabbit in Man. (*Gazz. Med. Ital. Lombardia*, Feb. 27, 1886.)

5823. DUCI, E.—Another Attempt to Engraft a Rabbit's Eye in Man. (*Gazz. Med. Ital. Lombardia*, April 10, 1886.)

5824. PFLÜGER.—On the Pathological and Physiological Effect of Cucaine. (*Annales a'Oculist., and Klin. Monatsb. für Augenheilk.*, May 1886.)

5825. GALEZOWSKI.—General Indications for Cataract Operations. (*Rec. d'Ophthal.*, May 1886.)

5826. CHANGARNIER.—Two Cases of Amblyopia from Sulphide of Carbon. (*Rec. d'Ophthal.*, May 1886.)

5827. GILLET DE GRANDMONT.—Defective Fusion as a Cause of Strabismus. (*Recueil d'Ophthal.*, May 1886.)

5828. ROLLAND.—Enucleation and its Results. (*Recueil d'Ophthalmologie*, April 1886.)

5829. Redard and others on Ocular Disturbances caused by Dental Irritation.

ART. 5822. *Pierd'houy on an Attempt to Engraft a Rabbit's Eye in Man.*—Chibret, of Clermond-Ferrand, was the first to attempt the transplantation of a rabbit's eye in a man (*Revue Générale d'Ophthalmologie*, June 1885). His case, though unsuccessful, apparently showed that complete adherence of the engrafted eye was possible. Dr. Pierd'houy's case was no more successful. E. A., æt. 25, was attacked, after small-pox, by a grave form of ulcerative keratitis, which, after suppurating, led to wasting of the bulb, with sympathetic disturbance of the sound eye. Enucleation was determined on, and the transplantation of a rabbit's eye proposed. The operation was performed on June 13 last; the patient was not chloroformed. The conjunctiva was divided in a regular curve at 3 millimètres from the edge of the cornea, the eye having been previously bathed with an antiseptic solution; it was then separated from the subjacent tissues to expose the muscles. These were seized one by one with De Wecker's double hook, and a carbolised thread, No. 1, passed through the tendon and the overlying conjunctiva, the muscle being then divided, and with the conjunctiva turned outwards, and secured to the skin of the face by strapping. A double catgut thread was then passed by the aid of a strongly curved needle through the optic nerve, at some distance from its insertion in the bulb, and the nerve divided. The bleeding was trifling, and easily controlled by ice; the frequent instillation of cucaine rendered the operation painless. The rabbit's eye was then enucleated, 4 millimètres of conjunctiva being left round the cornea, and the optic nerve divided not too close to its bulbar insertion. The catgut ligature of the optic nerve being arranged as a slip-knot, it was easy to make fast the nerve of the rabbit's eye, the ends of the ligature being afterwards cut off as close to the knot as possible. The other threads were then united to the tissue around the cornea of the rabbit's eye. At the conclusion of the operation the lids could completely close, and slight movement of the engrafted eye was possible. The site of the ligature was dusted with iodoform mixed with quinine and charcoal, and the eye closed with cotton-wool dipped in the aseptic solution, gauze and a carbolised bandage being applied over all. The patient complained of no pain. The dressings were removed on the third day. The cornea was perfectly transparent and sensitive; the circumcorneal conjunctiva of the rabbit's eye was in perfect apposition with the human conjunctiva; and, on the four stitches being taken out, the movements of the eye were as perfect as after the operation. The dressings were removed daily; on the sixth day the cornea began to cloud, and on the ninth a central ulcer threatened perforation, which occurred two days later, with prolapse of the iris, and escape of the crystalline lens on the fifteenth day. The process, however, was not a necrosis, as in a bulb isolated from the body; on the contrary, it was a true process of suppuration in a perfectly united bulb. The sphacelus was limited to the central anterior membranes, with escape of the crystalline lens, and part of the vitreous humour. The sclerotic was still sensitive and perfectly adherent to the human conjunctiva. In September a small painless stump remained, to which an artificial eye had been applied.

5823. *Duci on Another Attempt to Engraft a Rabbit's Eye in Man.*—In the *Gazzetta Medica Italiana-Lombardia* of April 10, Dr. Duci describes another case in which an attempt to engraft a rabbit's eye was made by Dr. Pierd'houy and himself. The method employed was identical with that followed in their first case. The patient, a woman, aged 30, was chloroformed. The conjunctiva was incised at three millimètres round the margin of the cornea; then, with Wecker's double hook, the recti muscles were seized in turn and divided, a loop of catgut being passed through each into the overlying conjunctiva, the loops of catgut being then fastened back on the face by strips of plaister. The bulb, thus deprived of its muscular attachments and denuded as much as possible from Tenon's capsule, was seized and dragged forward to bring into view the optic nerve, so as to pass through it the loop of thread as in the first operation. This, however, proving impossible, the nerve was divided a short distance from its entrance to the bulb. The hæmorrhage being controlled by pieces of ice, the eye of the rabbit was enucleated, the conjunctiva being divided at three millimètres from the cornea. The four recti muscles were then united by sutures to the conjunctiva of the rabbit's eye, four other sutures being applied, one between each of the two muscles. The eye was dressed on the seventh day; the cornea was universally suffused; the movements of the eye were perfect; no pain. Two days later, corneal ulceration commenced, then suppuration, with opening of the anterior chamber and escape of the vitreous humour and lens. The sclerotic coat adhered, and the patient remains with an indolent stump, to which an artificial eye is perfectly adapted. The cases at present recorded are—1, that of Chibret; 2, that of Terrier; 3, Pierd'houy's first case; 4, Rohmer's, who engrafted the eye of a dog; 5, one of Dr. Bradfort, of Boston, who, two months and twenty days after the operation, writes to Terrier that the engrafted eye had perfectly adhered and was of normal volume; on the external part of the cornea was a cicatrix due to a preceding ulcer; the conjunctiva was normal the iris slightly turbid, immobile ; the vitreous body slightly opaque, the optic nerve distinct, the movements of the bulb perfect in every direction ; 6, another case by Terrier ; 7, the second case of Pierd'houy related above. In all the cases, except Bradfort's, the result was the same ; necrosis of the cornea on the fifteenth to the eighteenth day, with excess of the vitreous and crystalline bodies, leaving a stump formed of the sclerotic of the transplanted eye. G. D'Arcy Adams, M.D.

5824. *Pflüger on the Pathological and Physiological Effects of Cucaine.*—The author recognises two distinct varieties of corneal opacity produced by cucaine. The first extends directly into the cornea from the wound, and is clinically of little importance, since it clears up in the course of a week or two. He believes that it is caused by a precipitate which the cucaine forms with the lymph. If to freshly evacuated aqueous humour a few drops of a neutral 4 per cent. solution of cucaine be added, in a few minutes a flocculent precipitate appears, the nature of which is unknown, but which is possibly identical with the opacity of the cornea just described. The second form is associated with prolonged anæsthesia of the cornea, lowered tension, and the obstinate recurrence of vesicles, and shows little tendency to clear up. The author describes a case in which in an old man, owing to the anæsthesia of the cornea, it was not discovered that the lids had been opened during the application of the bandage, the latter consequently was applied directly to the cornea, the result being a diffuse opacity.

As regards the physiological action of cucaine, the author gives reasons for concluding that the anæsthetic effect is due to a direct action upon the nerve-terminations, a conclusion that is not now seriously disputed ; and, after discussing in some detail the question as to whether the mydriasis is caused by irritation of the sympathetic fibres, or is secondary to the contraction of the blood-vessels, he comes to the conclusion that it is independent of the latter. Some of the reasons upon which this conclusion is based have already been adduced by Jessop (*Practitioner*, and the *Proceedings of the Royal Society*) ; for example, the retention of the activity of the pupil, the fact that cucaine increases the mydriasis caused by atropine, and the non-production of mydriasis by cucaine when the sympathetic is paralysed or has been divided. The other facts which invalidate the vaso-motor theory of the mydriasis are the following. In albino rabbits, no contraction of the vessels of the iris is visible, which can be with certainty attributed to the action of the cucaine ; some contraction of the vessels does occur, but this is also the case with atropine, and is probably the result, and not the cause, of the mydriasis. Another argument against this theory is that resting upon the fact that cucaine has no action upon the pupil in pigeons. In birds, the sympathetic supplies the blood-vessels of the iris, but not the dilator muscle, the latter receiving a special branch from the trigeminus. When in birds the sympathetic is divided above the superior cervical ganglion, there is increased vascularity of the conjunctiva, but no alteration in the size of the pupil. In addition to the direct evidence in favour of the sympathetic irritation theory, there is evidence that negatives the vaso-motor theory. The action of the blood-vessels can be put out of court by bleeding the animal to death. Contraction and dilatation of the pupil can still be excited by irritation of the third and sympathetic nerves of the decapitated head. Cucaine also causes mydriasis, even when not instilled till from ten to thirty minutes after death.

5825. *Galezowski on the General Indications for Cataract Operations.*—1. *Age of the patient.*—Even extreme old age is not a contra-indication. Szokalski operated successfully on a man aged 104, and the writer upon one aged 94. M. Galezowski considers, in opposition to the opinion of many, that it is not desirable to operate upon cases of congenital cataract before the age of 1½ or 2 years, a period when the greater part of the first dentition has been accomplished. 2. *Maturity of the cataract.*—M. Galezowski considers that the hard and fast rule of waiting for the maturity of the cataract is unreasonable, and that the time to be chosen for operation should depend upon the state of vision, rather than upon the maturity of the cataract. He would operate as soon as the patient's independence is compromised by his defective sight. 3. *Operation upon complete cataract in one eye when it is only commencing in the other.*—The author would operate in such, even if the affection of the second lens were confined to a few peripheral striæ. 4. *Monocular cataract.*—For this he does not hesitate to operate, in order to obtain a cosmetic effect and to give a defensive field. 5. *Should both eyes be operated on at once?*—This proceeding is unhesitatingly condemned ; as, indeed, it is by all trustworthy authorities.

5826. *Changarnier on Two Cases of Amblyopia from Sulphide of Carbon.*—The author describes the following cases. 1. A man (age not stated) presented himself with all the symptoms of alcoholic amblyopia. He was, however, a temperate man, and not a smoker. He had worked for eight months in a workshop where sulphide of carbon was employed. He had noticed a cloud before the eyes about six weeks. His vision deteriorated daily, and after twelve or fifteen days he could not read. All objects appeared yellow. Ophthalmoscopic examination revealed nothing abnormal. The visual field showed a central scotoma for red and green. He was treated with eserine locally and iodide of potassium internally, and recovered. 2. A man, aged 42, had worked in sulphide of carbon eleven months. Vision had commenced to fail a month before he was seen. He was unable to read ; and all objects appeared yellow. Ophthalmoscopic examination was negative. He had a central scotoma for red and green. The treatment and progress were as in the first case. No mention is made of the general symptoms in either of these cases, although, as a rule, these are very prominent, and precede, often by many months, the ocular symptoms. The reporter refers to Delpech's monograph of the subject, but does not appear to be acquainted with the elaborate report on the subject drawn up by a subcommittee of the Ophthalmological Society (*Trans. Ophthal. Soc.*, 1884, p. 157).

5827. *Gillet de Grandmont on Defective Fusion as a Cause of Strabismus.*—The writer points out that single binocular vision is the result—first of a complicated muscular act, which causes the images of the object looked at to fall upon corresponding points of the two retinæ ; and, secondly, of the cerebral act of fusion, by virtue of which the two images give rise to only a single sensation. In some cases this cerebral function of fusion is absent ; and when there is paralysis of the ocular muscles, the necessary movements cannot be produced. The author does not treat of such cases, but endeavours to show that with unimpaired muscles the regulation of convergence that is necessary for fusion may be alone affected, and that there is a form of squint which is caused by this, and by this only. The author calls the cerebral act of uniting the images 'fusion,' and the involuntary muscular contraction that is necessary to throw both images upon the fovea centralis in each eye 'fusionnement'—a nomenclature that seems to be unnecessarily confusing; 'binocular fixation' will represent the latter act sufficiently. Von Graefe has named the position of the eyes, when the muscles are completely relaxed, the position of equilibrium. Single binocular vision of a distant object does not necessarily indicate a *natural* parallelism of the visual axes; the natural direction of these is only rendered apparent when fusion is rendered impossible by means of a vertical prism. From the prism, with its base horizontal, that is then required to correct the lateral displacement of the image, the direction of the visual axes can be calculated. Besides the absolute position of equilibrium, there is an equilibrium relative to any given distance. For instance, there may be binocular fixation for a point at a given distance, owing to the instinctive desire to avoid diplopia; but the true position of equilibrium for that distance is not rendered apparent until a vertical prism is employed. The range over which fusion can occur varies in different individuals. The amplitude of 'fusion' can be measured by prisms, the highest prisms with the bases inwards that can be overcome giving the measure of divergence; and those with their bases outwards of convergence. The sum of the two gives the amplitude. The amplitude of binocular fixation may be curtailed, or it may be absent. The writer divides squint into three classes. The first contains—(*a*) the squint that occurs when an object is brought within the near point of convergence; (*b*) cases in which the position of equilibrium is abnormal, owing to too great muscular power, as occurs in congenital squint without hypermetropia; (*c*) squint from abnormal innervation, as that which is associated with hypermetropia; (*d*) paralytic squint. The second class includes cases in which the importance of fusion is diminished owing to defects in one eye. The third class is constituted by cases in which fusion is primarily affected; and these may be subdivided into two classes—(*a*) those in which the cerebral function of fusion is absent; (*b*) those in which the range of binocular fixation (*fusionnement*) is limited, or is *nil*. In this latter condition, diplopia appears at every point which does not coincide with the position of equilibrium. It can be distinguished from that due to paresis of a muscle, by the fact that the distance between the images remains the same in all positions. In these cases, single vision occurs directly the images are thrown upon each fovea; but, however little they are removed from it, fusion is impossible. Such cases are often erroneously classed as muscular insufficiency.

5828. *Rolland on Enucleation and its Results.*—In this paper, the writer discusses the dangers that have been attributed to enucleation, and the consequent attempts that have been made to substitute other operations for it. He believes that the dangers have been much exaggerated, that many of the cases of meningitis attributed to the enucleation were mere coincidences, and that the alternative operations that have been proposed are no safer than enucleation. Dr. Rolland goes yet further, and implies that discredit has been thrown upon enucleation only by those who are 'partisans' of a rival operation. In support of this he quotes eleven cases of meningitis following enucleation, and shows that the reporters of these had recommended other operations. Dr. Rolland is apparently not acquainted with the more recent literature of this subject, or he would have known that many more cases have been recorded by other operators whose views are unbiassed, and whose opinion is of value (*see* LONDON MEDICAL RECORD, April 1886). The percentage of cases in which enucleation is followed by meningitis is exceedingly small, probably not more than 3 per 1,000; and it is quite possible that the rival operations may be proved to be no safer; but Dr. Rolland makes no serious attempt to argue the question.

W. ADAMS FROST.

5829. *Redard and others on Ocular Disturbances caused by Dental Irritation.*—At the recent Ophthalmological Congress in Paris, M. Paul Redard described a number of cases in which dental affections were evidently the source of ocular disturbance, such as glaucoma, amaurosis, amblyopia, and cloudy vision. In asthenopia, without any apparent cause, the teeth should always be examined. M. Gayet mentioned a case in which disturbance was produced by a tooth fixed on a pivot; the symptoms appeared and disappeared according as the tooth was removed or replaced. M. Fieuzal had observed so many of these cases of correlation between ocular and dental affections, that he had urged that a dental clinic should be annexed to the Quinze Vingts Hospital for blind people. M. Suarez and M. Galezowski mentioned similar facts. M. Javal mentioned a series of cases, of an inverse order, in which dental disturbance disappeared after operating for glaucoma.

W. VIGNAL.

SYPHILOGRAPHY.

RECENT PAPERS.

5830. DOLERIS.—On Rigidity of the Cervix Uteri of Syphilitic Origin. (*Gaz. Med. de Paris*, Nos. 49, 50, 51, 52; and *Annales de Derm. et de Syph.*, No. 10, 1885, p. 626.)

5831. ALVAREZ ET TAVEL.—Researches on the Bacillus of Lustgarten. (*Archives de Physiologie*; and *Annales de Derm. et de Syph.*, No. 10, 1885, p. 624.)

5832. KOPP.—The Treatment of Syphilis with Subcutaneous Injections of Hydrargyrum Formamidatum (Liebreich). (*Viertelj. für Derm. und Syph.*, Nos. 1 and 2, 1885.)

5833. FINGER.—The Diagnosis of the Initial Sclerosis of Syphilis and of the Local Contagious Ulcer. (*Ibid.*, Nos. 2, 3, 4, 1885.)

5834. PODRES.—Blennorrhœa of the Urinary Apparatus in Men. (*Ibid.*, Nos. 3, 4, 1885.)

5835. HARTMANN ET PIGNOT. — Hæmorrhage and Syphilis. (*Annales de Derm. et de Syph.*, No. 1, 1886.)

5836. MÉNÉTRIER.—Perforating Ulcers of the Palms of the Hands in a Case of Syphilitic Tabes. (*Ibid.*)

5837. SECHEYRON.—Tertiary Syphilis of the acquired Form observed in Adolescents. (*Ibid.*, No. 2, 1886.)

5838. MOREL-LAVALLÉE.—Syphilitic Chancre of the Eyebrow. (*Ibid.*)

5839. HERMET. — Indurated Chancre of the Ear. (*Ibid.*)

5840. DOUTRELEPONT. — The Bacilli of Syphilis. (*Ibid.*)

5841. Fournier.—Spontaneous Blennorrhagic Conjunctivitis. (*Lancet*, Jan. 23, 1886, p. 175.)

5842. Casper.—A New Treatment of Gonorrhœa Chronica by Means of Grooved Bougies. (*Ibid.*, Feb. 6, p. 246.)

5843. Lowndes.—Three Cases of Sloughing Ulcer of the Penis. (*Ibid.*, p. 248.)

5844. Symonds.—Syphilitic Disease of the Liver and Lung in a Child one Month old. (*Ibid.*, Feb. 20, p. 350.)

5845. Syphilis at Nishni Novgorod. (*Ibid.*, p. 365.)

5846. Clutton.—Symmetrical Synovitis of the Knee in Hereditary Syphilis. (*Ibid.*, Feb. 27, p. 391.)

5847. Wilson.—On the Treatment of Syphilis. (*Ibid.*, March 27, p. 584; and April 3, p. 633.)

5848. Pitt.—Hydatid of the Liver Embedded in a Syphilitic Growth. (*Ibid.*, April 10, p. 688.)

5849. Griffith.—Syphilitic Affections of the Eyelids. (*Brit. Med. Jour.*, May 22, 1886.)

Art. 5832. *Kopp on the Treatment of Syphilis with Subcutaneous Injections of Hydrargyrum Formamidatum (Liebreich).*—In this paper, Dr. Carl Kopp details the particulars of 126 cases in which the above-named plan of treatment was carried out in the clinic of Professor Neisser at Breslau. The 126 cases were treated with more than 3,000 injections, the average number being 25, each containing one centigramme of formamide of mercury. Of the patients, 65 were men and 61 women. In 53 cases, the lesions present were either primary or constitutional symptoms appearing for the first time; 71 were relapses of secondary syphilis, and in two the lesions were tertiary. The symptoms disappeared under the treatment in 92 cases; in 13 instances some other method of treatment was substituted on account of disagreeable effects; in 11 the symptoms did not disappear, in spite of long-continued employment of Liebreich's preparation; while in 10 cases the injections were interrupted by the patient leaving the hospital, or by complications occurring after considerable improvement had taken place. The author sums up his views on the value of the formamide of mercury as follows. Liebreich's preparation is decidedly useful in mild forms of syphilis, and in many cases of slight relapse, especially lesions of the mucous membranes. But even for these the much more convenient plan of internal administration may be employed, especially since the introduction by Lustgarten of the *hydrargyrum oxydulatum tannicum*, a preparation which Dr. Kopp strongly recommends on account of its mild and unirritating action on the intestinal canal. Injections of the formamide are decidedly preferable to those of corrosive sublimate, because of the slighter local reaction; but the absence of accumulative action, owing to rapid elimination, must be considered a disadvantage. The formamide, therefore, should not be employed in all cases of severe lesion, such as large syphilitic papules and solid infiltrations; for these the best treatment is mercurial inunction. The formamide is also unsuitable for tertiary lesions. Relapses are not prevented by the formamide; on the contrary, they appear to be more than usually frequent when it is used.

5835. *Hartmann and Pignot on Hæmorrhage and Syphilis.*—The authors of this paper have collected the reports of thirteen cases, bearing on the occurrence of hæmorrhage of various kinds in connection with syphilis. Three of the cases had been communicated to the Clinical Society of Paris by one of the authors in 1884. The rest are collected from various sources. From these cases, and from the opinions of certain authors which are also quoted, the following conclusions are drawn. *A.* In congenital syphilis, a true hæmorrhagic diathesis may be observed. *B.* In acquired syphilis: 1. There is no proof that the diathesis influences the occurrence of bleeding from the surface of simple wounds. 2. In cases where a cutting instrument is used on tissues affected by syphilis, serious bleeding is exceptional. 3. Specific ulcerations hardly ever give rise to more than slight oozing of blood, except, of course, in cases where the ulceration extends to the walls of a large vessel. 4. By means of the arteritis determined by syphilis, that disease may be the cause of hæmorrhage in the viscera, especially the brain. Paroxysmal hæmoglobinuria very often owes its origin to syphilis. The symptoms, according to Murri, are to be explained by a morbid state, affecting at the same time the organs by which the corpuscles are generated and the vaso-motor centres. 5. Syphilis may determine cutaneous hæmorrhages (*a*) on the surface of specific eruptive lesions; (*b*) by creating a special form of purpura; (*c*) by acting as the determining cause of a purpura which presents ordinary characters, and which is evolved during the course of secondary syphilis.

5836. *Ménétrier on Perforating Ulcers of the Hands in a Case of Syphilitic Tabes.*—The patient in this case, a coachman, aged 26, was admitted into the St. Louis Hospital, under the care of M. Fournier, on April 28, 1885. At the age of 15 he fell from a horse on the right side of his forehead, and lost consciousness for two or three hours. He recovered without bad symptoms in a fortnight. With this exception, his general health had been good until 1879, when he had a sore on the penis followed by roseola, pains in the head, palmar syphilides, and iritis. He was then treated by an army-surgeon with mercury and iodide of potassium. About the same time, he began to suffer from lightning-pains in the upper extremities. Some months later, similar pains were felt in the lower limbs. The pains continued up to nearly the time of admission; when, however, instead of being temporary, they had become fixed for a day or two in one place, in the thigh or in one toe, for example. For a year he had been subject to slight attacks of giddiness, which mostly followed some sudden movement of the head. He then began to feel weak, and sexual power and desire were alike impaired. For a year he had occasionally passed a few drops of urine involuntarily, and constipation had become habitual. About the same time, he first noticed some small fissures on the pulps of the fingers of both hands. These continued to increase as long as he continued his occupation of carriage-washing. On resuming work after two months' rest, fissures appeared at the root of the right index finger; red patches also appeared on the right forearm, and lasted about six weeks. He then left off work again, but, five or six days after returning to it, blisters appeared on the ends of the fingers and burst, leaving ulcers, which still remained. For six weeks before admission he had had tingling in the fingers, and for a fortnight there had been loss of sensation in them. On admission, the condition was as follows. On the palms of the hands and palmar surface of the fingers and thumbs there were, in addition to cicatrices and fissures, numerous ulcers, which presented exactly the appearances seen in cases of perforating ulcer of the foot. The right hand was more affected than the left. The terminal phalanges of the right little finger and of the left index were shortened and thickened transversely, so that these fingers had a drumstick-like form. The extremity of the middle phalanx of the left index was also affected. Some of the nails were slightly altered. Sensation was much impaired in the fingers, but more in those of the right than of the left hand. On the back of the right hand was a large erythematous, thickened, and slightly desquamating patch, and there were similar patches on the wrist and anterior and posterior surfaces of the right forearm. There were no such patches on the left limb. Lightning-pains were felt in both upper limbs, and in the lower limbs pains, sometimes sharp and sometimes localised and fixed, had been felt. There was no perceptible inco-ordination. The patellar reflex was absent on both sides. The right pupil was permanently dilated, the left was normal. The urine showed no abnormality; and the organs of digestion, circulation, and respiration appeared to be healthy. Under mercurial inunction and iodide of potassium internally, the ulcers rapidly began to heal, and by May 20 were all well. About that time, however, two fresh blisters appeared, one on the right palm at the root of the middle finger, the other on the palmar surface of the middle phalanx of the index. These blisters burst in three or four days, and left ulcers exactly like the previous ones. The erythematous patches soon disappeared. The other symptoms remained as before.

5838. *Morel-Lavallée on Syphilitic Chancre of the Eyebrow.*—A man, aged 42, was admitted into the Lariboisière Hospital, under the care of M. Siredey, for paralysis of the fingers, probably due to lead-poisoning. On examining the skin, he was found to be suffering from a secondary syphilide. The patient said he had not had sexual intercourse for a year, that he had been in another hospital six weeks before, when the doctor there said he had mucous patches on the scrotum and examined the penis, but found no trace of a sore. On examination, an indurated cicatrix was found on the left eyebrow, and the corresponding pre-auricular gland was enlarged. Afterwards, syphilitic erosions appeared in the mouth. The man stated that, during a quarrel three months previously, he had been bitten by his antagonist on the left eyebrow.

5839. *Hermet on Indurated Chancre of the Ear.*—A woman, aged 42, was admitted into the Saint-Louis Hospital, under the care of M. Fournier, on Nov. 21, 1885. She said that at the beginning of September she had noticed a small lump behind one of her ears. This gradually became larger, in spite of poulticing and blistering. On admission, on each side of the auriculo-mastoidean sulcus was a prominent coppery-red mass, with ulceration between the two. The glands behind the sterno-mastoid muscle were enlarged. There were syphilitic erosions on the velum, and some pigmented stains on the body. On Nov. 24 roseola appeared, and an erosive syphilide on the genitals. The woman could give no explanation of contagion, except that her husband might have kissed her behind the ear. On examination of the husband, he was found to be suffering from syphilitic patches of the mouth and tongue, enlarged glands, and roseola.

5842. *Casper on the Treatment of Chronic Gonorrhœa.*—The plan of treatment here recommended is the passage of slightly conical nickel-plated bougies, 25 centimètres long, and having six grooves about 1½ millimètre deep, which become shallower towards the extremity of the instrument, and end at 5 centimètres from the point. The grooves are filled with a paste composed of cacao butter 100 parts; nitrate of silver 1 to 1·5 parts; balsam of copaiba 2 parts. The paste is slowly warmed, and when dissolved is poured into the grooves and allowed to harden. The smooth part of the instrument is rubbed with glycerine before it is introduced. At the temperature of the body, the ointment melts in one minute.

5844. *Symonds on Syphilitic Disease of the Liver and Lung.*—Mr. C. J. Symonds showed at the Pathological Society of London specimens of syphilitic disease of the liver and lung from a child one month old, in whom the first sign of congenital disease was a squamo-tubercular syphilide. The liver was enlarged, firmer than natural, greyish in colour, and uniform in consistence. It was uniformly infiltrated with a fibro-cellular growth. The liver-cells seemed to be destroyed by the pressure of the new growth. Much resemblance to hypertrophic cirrhosis was noted, but the appearances of a duct-formation were absent. In the lung was a lump three-quarters of an inch across, solid, and of greyish colour—an example of the white hepatisation of Virchow.

5845. *Syphilis at Nishni Novgorod.*—At a meeting of the syphilis section of the Moscow and St. Petersburg Medical Society, a female practitioner, who had been commissioned by the Government to inspect the common women frequenting the great annual fair at Nishni Novgorod last year, communicated the results of her experience. There were two inspection stations open from June 16 to September 3, during which time 2,812 examinations were made of 355 women, of whom 49·3 per cent. were frequenting the fair for the first time, and 27·7 per cent. for the second time. Some were professional prostitutes, and some were servants and peasant women who only practised prostitution during the time of the fair. Of those examined, 6·2 per cent. had urethritis (*sic*), 1 per cent. soft chancres, 0·2 per cent. hard chancres, 5·1 per cent. syphilitic condylomata, and 0·2 per cent. gummata. The conclusions arrived at were, that the main cause of the spread of syphilis is public and private prostitution, such as that carried on at the fair; and that the examination regulations must be improved.

5846. *Clutton on Symmetrical Synovitis of the Knee in Hereditary Syphilis.*—Mr. H. H. Clutton, after remarking that the condition above named has been little noticed in surgical literature, goes on to consider the affection by the light of seven cases of which careful notes had been kept by himself, three cases communicated by Mr. Nettleship, and one by Mr. Lawford. In these eleven cases, the particulars of which are given in a table, the average age was about 13 years. Five were boys, and six were girls. The predominant features of the affection were the symmetry of the synovitis, the freedom from pain, the long duration of the symptoms, and the free mobility of the joints on passive movement throughout the course of the disease. The patient generally complains of stiffness in one knee, which is then found full of fluid, but not tense; on careful examination, the other knee is also found to contain fluid, but not to the same extent as the one for which advice is sought. In a few cases there has been an interval of some months before the second knee has given the ordinary signs of synovitis; and in one, a girl aged 20, there was an interval of two years. In no case could any affection of any other joint be discovered, and only in one was there any history of such. In some of the cases the swelling was accompanied by considerable thickening of the synovial membrane, and in one, recorded by Mr. Nettleship, it gave the impression of loose bodies in the joint. The ends of the bones were not enlarged, and in only a small proportion of the cases was there any articular tenderness. Nodes were occasionally found, but generally some little time after the onset of the swollen joint, and at some little distance from it. In all cases, the swelling remained with scarcely any alteration for from three to six months, and once for twelve months. The result in all was perfect recovery of the joints under mercury and iodide of potassium, though the effect of those drugs was not so marked as in acquired syphilis. Cases treated with splints and rest in bed were as slow in recovering, as those in which no local treatment was adopted. The evidence of syphilis was as follows. Active keratitis was present in nine cases, and in another there were traces of a former attack. Five had the central incisors marked in the manner characteristic of the disease. Four had nodes on the tibiæ, and two had recently become absolutely deaf. The author does not think this disease has any relation to epiphysitis, which is common in syphilitic infants. He also remarks on the similarity between interstitial keratitis and the symmetrical synovitis. Both knees, like the eyes, are in his experience sooner or later affected. Both diseases are exceedingly chronic, and produce little or no destructive change in the tissues involved. They are also both liable to relapses, and not very amenable to treatment. The age of the patients is another point of similarity, seven out of the eleven having been between eight and twelve years old. Up to the present the author has not seen this chronic symmetrical synovitis, which appears to be associated with hereditary syphilis, in any other joints besides the knees; but he thinks it probable that on further observation other joints will be seen to be affected in a similar manner.

5847. *Wilson on the Treatment of Syphilis.*—In this paper, Dr. James Wilson deals chiefly with the method of treatment by mercurial inunction, bathing, &c., carried out in Aix-la-Chapelle, which he has carefully considered during a long sojourn at Aix devoted to the study of the German treatment. The author states that the marvellous results met with there have led him to the conclusion, and impressed him with the desire, that the plan of treatment should be more fully carried out in this country. The method of giving mercury by the mouth is, according to Dr. Wilson, the worst of all modes of administration.

5848. *Pitt on Hydatid of the Liver embedded in a Syphilitic Growth.*—This specimen was shown to the Pathological Society of London by Dr. G. N. Pitt. The man, aged 39, came in 1885 under Dr. Goodhart's care with a large, painless, globular tumour, with a firm, sharp, lower margin, occupying the left lobe of the liver and extending down nearly to the umbilicus. He had contracted syphilis thirteen years previously, and three years later had been castrated for syphilitic disease of the testes. In 1878 he had slight aphasia and right hemiplegia, which soon improved. In 1881 he was under Dr. Fagge's care with a large, painful, irregular tumour connected with the liver, which was diagnosed as gumma and lardaceous disease. The urine was then normal. On admission in 1885, he was suffering from œdema, and was passing 70 ounces of urine daily, of a specific gravity of 1007, containing one-third of albumen. After eight weeks, he became uræmic and died. At the necropsy, the kidneys were large, white, and somewhat lardaceous. The left lobe of the liver, which weighed 146 ounces, was entirely occupied by a dense white fibroid mass, measuring 6½ by 3½ inches, which enclosed a contracted cavity 2 inches in diameter filled by numerous gelatinous-looking capsules one inside the other, evidently the remains of an old hydatid cyst. The author drew attention to the great rarity of such a large syphilitic mass, without any evidence of caseation or breaking down.

5849. *Griffith on Syphilitic Affections of the Eyelids.*—Dr. Hill Griffith read a communication on this subject before the Manchester Medical Society on April 21 (*Brit. Med. Jour.*, May 22, 1886). The paper was based on twenty-two cases which had been under the care of Drs. Little, Glascott, and Mules at the Eye Hospital. The cases fell under three heads. 1. Primary chancres, nine in number, in all of which there was induration and, in all but one, glandular enlargement. A subsequent eruption confirmed the diagnosis in every case. 2. Secondary and tertiary ulcers, six in number, in which there was no induration. In this group cutaneous manifestations had, for the most part, occurred previously. 3. In seven cases there was no evidence of syphilis except the local lesion, but in all these the resemblance to the first class was very striking. ARTHUR COOPER.

MEDICAL CHEMISTRY.

RECENT PAPERS.

5850. FISCHEL, W.—Of the Presence of Peptones in Fecundated Hen's Eggs. (*Zeitschr. für Phys. Chemie*, Band x., 1885.)

5851. AGOSTINI, C.—A New Reagent for Glucose. (*Annali di Chim. e di Farmacologia*, April 1886.)

5852. GRÉHAUT.—On Respiratory Elimination of Carbonic Oxide. (*Comptes Rendus de la Société de Biologie*, April 17, 1886.)

5853. FELTZ.—On Experiments on the Toxic Power of Febrile Urine.

5854. BLOMFIELD.—On Albuminometry and Esbach's Tubes. (*Lancet*, January 1886.)

5855. BEHRENDT.—The Recognition of Albumen. (*Brit. Med. Jour.*, May, p. 822.)

ART. 5850. *Fischel on the Presence of Peptones in Fecundated Hen's Eggs.*—According to W. Fischel, peptones play in the nutrition of the embryo and its appendages an analogous part to that taken by them in the nutrition of the adult organism. The excess of peptones is eliminated by the urine of the mother. The author has examined forty-two fecundated eggs. In eggs of less than fifteen days' incubation, the presence of peptones was not demonstrated. In the yolks of eggs from the sixteenth to the nineteenth day, with two exceptions, the presence of peptones was constant. The author employed the reaction of Esmarch to distinguish the peptones. Their quantity (about 54 milligrammes in an embryo) was determined by the polarimetric method of Professor Huffert.

5851. *Agostini on a New Reagent for Glucose.*—Prepare a solution of chloride of gold at 1 to 1,000, and one of hydrate of potash at 1 to 20. Five drops of the liquid to be examined are put in a test-tube with 5 drops of the gold solution, and 2 of the potash solution, and then boiled. On cooling, if the glucose be in a watery solution, a beautiful violet tint appears, more or less intense according to the amount of glucose present. The reagent is extremely sensitive, and will show 1 part in 100,000. With urine, the tint is a characteristic red-wine colour; the reagent in this case is less sensitive, but shows still 1 part in 1,000, which is sufficient for all clinical purposes. This reaction is given by no other component of the urine, normal or abnormal. If albumen be present in large quantity, it should be first removed by boiling and filtration.

G. D'Arcy Adams, M.D.

5852. *Gréhaut on Respiratory Elimination of Carbonic Oxide.*—M. Gréhaut stated at a recent meeting of the Biological Society that the results of his experiments on the elimination of carbonic oxide, by the respiratory channels after poisoning by that gas had been denied by Herr Kreis, who asserted that there was no elimination, because the gas entered into combustion in the organism and was thus formed into carbonic acid. M. Gréhaut repeated his experiments, and obtained the same results as followed his first set of experiments. He injected a dog with 30 grammes of blood containing five cubic centimètres of carbonic oxide, and he found that four and a half cubic centimètres were eliminated. M. D'Arsonval asked if the period of elimination was in proportion to the weight of the animal. M. Gréhaut answered that the process of elimination was quicker in rabbits than in dogs.

5853. *Feltz on Experiments on the Toxic Power of Febrile Urine.*—M. Feltz, of Nancy, forwards to the Académie des Sciences a paper entitled *Essai Expérimental sur le Pouvoir Toxique des Urines Fébriles.* He states that in a former work by him and the late Professor Ritter, which gained the Godard Prize in 1884, it was demonstrated that normal fresh urine, well filtered and heated to 33° C. (91°·4 F.), and of a density varying from 1018 to 1020 is toxic to dogs if the quantity injected into the veins be equal to the volume of urine secreted by them in twenty-four hours three times multiplied. The weight of this quantity is with some slight variations about the fifteenth of the weight of the animal. The symptoms which are thus provoked are identical with those of uræmia or urinæmia, determined in dogs, when the urinary secretion is prevented. MM. Ritter and Feltz were, by the result of their experiments, published in their memoir of 1881, led to suppose that the toxicity of normal urine increases with its density; also that the principal toxic agent in normal urine is contained in its inorganic substances rather than in its organic, and especially in its potassium salts. Professor Feltz has recently made a fresh series of experiments, with a view of ascertaining the action of certain kinds of human pathological urine. The action of febrile urine was first studied; the symptoms of uræmia, convulsions, coma, and death appeared more quickly than with normal urine. Fourteen dogs were experimented on, and in all much smaller doses produced these results than would have been possible with normal urine. A third or half less of a toxic dose of normal urine is a toxic dose, with urine positively febrile. The toxic power of febrile urine has no relation with its density. Urine of 1007 density may be as toxic as urine of 1024 density. This is very evident in the urine of typhoid and rheumatic patients. Thus there are in pathological urine toxic agents which are either absent in normal urine, or present only in very small quantities.

W Vignal.

5854. *Blomfield on Albuminometry and Esbach's Tubes.*—In the *Lancet*, January 1886, p. 153, Mr. Blomfield describes a method, used in many French hospitals, for ascertaining the actual amount of albumen present in urine. It is called Esbach's method, and consists in the precipitation of the albumen by picric acid. After standing twenty-four hours, the precipitated albumen reaches a certain height in the tube, and by this means the percentage is determined. The reagent for precipitating the albumen is made by dissolving 10 grammes of picric acid and 20 grammes of citric acid in 800 or 900 cubic centimètres of boiling water, and adding water to one litre. Urine is poured into the tube to a certain mark, and the reagent to another. The contents are then mixed together, and allowed to stand for twenty-four hours, when the height to which the subsided precipitate has reached gives the grammes of albumen per litre.

5855. *Behrendt on the Recognition of Albumen.*—In the *Brit. Med. Jour.*, May 1886, p. 822, Mr. M. J. R. Behrendt notes that he failed to obtain evidence of the presence of albumen by Dr. Oliver's test-papers, but on boiling the urine by itself a copious precipitate of albumen was thrown down which the addition of dilute nitric acid only intensified. The urine was that of a young man, aged about 20, who had been exposed to wet and cold. He afterwards complained of swollen feet, and that his urine was very scanty. The author adds that it is important to verify a negative result with Oliver's test-papers, by testing with the old method of heat and nitric acid.

Richard Neale, M.D.

REVIEWS.

Article 5856.

1. *Ragatz-Pfäffers, &c.* By Albert Schaedler, M.D. With Maps and Views. Small 8vo., pp. 60. St. Gall. 1886.
2. *The Baths of St. Moritz, &c.* By Woldemar Raden. 12mo., pp. 68. Zürich. 1886.
3. *Du Traitment Hydro-minéral de Vittel, &c.* Par les Docteurs Bouloumié et Patézon. Paris. 1886.
4. *Die Pneumatische Kammern in Reichenhall, &c.* Par Dr. G. von Liebig. 1886. (*Münch. Med. Wochensch.*, No. 21.)
5. *Baden-Baden und seine Kurmittel.* By Drs. Baumgärtner, von Corval, Frey, von Hoffmann, Schliep, Schneider. 8vo., pp. 210. Baden-Baden. 1886.
6. *Carlsbad and Its Environs.* Illustrated. By J. Merrylees and Dr. London. 12mo., pp. 199. London. 1886. Messrs. Sampson Low, Marston, & Co.
7. *Der Badeort Teplitz-Schönau.* By Drs. Delaes und Baumeister. 12mo., pp. 112. Prag & Teplitz., 1886.
8. *Teplitz gegen Ischia.* Von Dr. A. Eberle. 12mo. pp. 112. Prag & Teplitz. 1886.
9. *South Africa as a Health-resort.* By A. Fuller, M.B., M.R.C.S.Eng. 12mo., pp. 56. London. Whittingham & Co. 1886.
10. *The Melbourne Argus.* April 24, 1886.

1. THE little volume before us is an excellent guide, by a competent observer, to the waters of Ragatz-Pfäffers. These belong to the very weakly mineralised class of waters called indifferent or Wildbads, and their temperature is not very high—95° at Ragatz, and 96°·8 at Pfäffers, their source. Dr. Schaedler tells us, that he cannot give any exact or complete explanation of the undoubted efficacy of these seemingly inert fountains. Electric explanations are vague and doubtful. Something is to be attributed to the nature of the wildbad itself, which differs from ordinary baths in being larger, and in having a continued inflow and outflow of water. This produces a constant and mild temperature, and, owing to the current of water, there is more action on the papillary nerves than in an ordinary bath. This may partly explain Dr. Schaedler's reason for the opinion, that they operate chiefly through their effect on the nerves. The curative action of the waters is most marked in nervous complaints, next in chronic rheumatism and gout; but there is a great variety of diseases, which we cannot enumerate here, which are capable of being benefited by them as by all thermal waters.

Dr. Schaedler advances no extravagant claims for his baths, and gives full information about them, as well as about the longer and shorter excursions which can be made in that magnificent neighbourhood, and which relieve the monotony of the treatment. Most people know that the hotels and living are excellent at Ragatz, and that the baths are on the railway in the direct line to the Engadine.

2. This is one of the excellent series of illustrated guide-books published by Orell, Füssli, & Co., of Zürich. It gives all the general information about the district and its people, and about the baths of St. Moritz, that can be wanted by the laity. At this time of day, there is not much that is new to be said of these popular waters. We observe that a not very important traditional inaccuracy is repeated in this book, though the mistake was pointed out long ago. Paracelsus is made to say that the spring runs sourest in the month of August. Now what Paracelsus said in the early edition of his book—*De Morbis Tartareis*—was this, that the narrower the channel, *angustiore alvo*, in which the water ran, the sourer it was. Somehow, in later editions, *angustiore* has been converted into *angusto*. Further, Swiss writers interpret the phrase of Paracelsus, *Is perfectam sanitatem adipiscitur*, 'he can boast of health,' instead of 'he obtains perfect health.' In one respect, this guide-book differs from most others. It gives discriminating praise of the district it describes. It points out that though there is a certain grandeur and simplicity about the Engadine, there is also some monotony and a want of variety, which strike the eye of the visitor coming from the more picturesque Bernese Oberland or from the Lake of Lucerne.

3. This treatise is the joint production of Dr. Bouloumié and of Dr. Patézon, of Wittel, which is a small bath close to Contrexéville, and has waters very similar to those of that place.

It has been the habit of some practitioners, in cases where the presence of stone in the bladder was suspected, to prescribe these mineral waters under the idea that the stimulation caused by them would make the presence of the stone plain. Dr. Bouloumié and the majority of practitioners deem it much wiser to use the sound at home, and save the patient an unnecessary trip to the waters. If patients with undoubted stone present themselves at such baths, their treatment or cure should be carried out with prudence and moderation.

Dr. Patézon raises the question of the employment of waters of this class, in the case of patients who have undergone an operation for stone, as a prophylactic against its fresh formation. He thinks that the waters may be useful in many such cases, but that they must be employed with judgment; and Dr. Bouloumié gives in some detail the indications and the contra-indications for their use under such circumstances.

4. Dr. von Liebig points out that the second portion of Oertel's instructions for the treatment of diseases of the organs of circulation, consists mainly in restoring the balance between the arterial and venous systems, by the expansion of the lungs, and thus relieving the pulmonary circulation, and by bringing into play the alveoli of the lungs which were before compressed, and thus restoring their natural function to their capillaries.

These effects Oertel produces by hill-climbing, but they also can be produced by compressed air. Reichenhall, like Baden, offers both hills and compressed air chambers. Compressed air effects a permanent expansion of the pulmonary space, with relieved and deeper respiration. During its use more oxygen is conveyed to the blood, the beats of the heart become slower, and the heart is strengthened. As these alterations take place, the circulation improves, and œdematous swellings caused by pulmonary obstruction disappear. Emphysema and asthma dependent on bronchial catarrh are relieved.

The results recorded by Dr. Schliep at Baden are essentially the same; but he extends the number of complaints in which he thinks his chambers useful, as, indeed, Dr. Th. Williams is also inclined to do. It begins to look as if the use of compressed air was about at last to acquire a stable foundation. On an average, during the last three years, 375 persons have used the chambers at Reichenhall.

5. This is a full-sized octavo volume of 210 closely printed pages. It is intended for the medical profession, and has a higher aim than most guide-books to baths. It gives a full account of all the forms of treatment that are available; and is the work of six practitioners, each of whom furnishes a report on his special subject at Baden. The subjects treated of are—(1) Its position and climate; (2) The mineral waters and the modes of using them, and their effects; (3) Hydrotherapy; (4) Curative gymnastics; (5) Massage; (6) An account of the eye clinique; (7) The town clinique; (8) Pneumatic chambers; (9) Electro-therapeutics; (10) What is called 'Terrain,' is in reality the applicability of Baden to the climbing cure of Oertel. In these pages, the elements of bathing of all sorts; an outline of hydrotherapy, details about curative movements, including massage, explanations of the action of compressed air and of electricity, are all to be found treated of by competent authorities; and the papers on these subjects may be consulted with advantage. The accounts of the two cliniques, although they show the resources of Baden, scarcely come under the head of balneology. In the article on the eye clinique, the shade of the forests is said to be good for the eyes, and the bath-water is pronounced to be a mild eye-wash. That seems to be all that bears on Baden in particular. In like manner, the account of the town private clinique is chiefly a record of its surgery as applied to the diseases of women.

The most striking cases are those of the extirpation of the thyroid gland—a comparatively new operation, and by no means devoid of danger. The enlargements have been chiefly strumous, and the operator has always endeavoured to save any portions of the gland that were healthy. Among twenty-three cases there have been three deaths. The waters appear to be employed in this clinique chiefly for vaginal irrigation and for general baths, like other thermal ones.

The chief novelty in the appreciation of the therapeutic operation of the waters, is the complete adoption of the views current in France about the action of the arsenic in mineral waters. The Germans used to laugh at this; but now that Baden can be set up as a rival to Bourboule, the action of the arsenic in the Baden waters is becoming every day more apparent (we are told) to those who prescribe them. Arsenic appears in nearly equal amounts in three of the wells, and must have long done so. How is it that none of the effects of arsenical action were detected until Bunsen discovered the presence of the arsenic in the waters?

We cannot attempt to criticise in detail so extended a work as this, but we can assure professional readers that they will find much that is instructive in it. The book goes to show that almost every variety of remedial agency is supplied by Baden-Baden; yet it is not a mere *reclam*, as they call that sort of thing in Germany.

6. Mr. Merrylees has furnished a successful guide to Carlsbad and to its neighbourhood. He seems to supply full and accurate information on almost every subject. On one point only, there is nothing to guide the visitor. There is no list of the medical practitioners, with their hours for seeing patients, nor any notice of the fees usually charged by them, a subject decidedly interesting to patients. The book includes sketches of neighbouring watering places, such as Gieshübel-Puchstein, Königswart, Marienbad, Franzensbad, and Teplitz, which, if short, are to the point.

An excellent map is appended of Carlsbad and its environs, with all the distances and heights elaborately set down for the benefit of invalids, who may climb the steep hills at the bottom of which Carlsbad lies.

Dr. London has done his part well, and gives in moderate compass a good outline of the medical uses of the waters, without entering into details, which are much best omitted from works of this general character.

7, 8. The first of these works is the re-issue of an old established guide-book to Teplitz, with the information brought down to date. The second one is devoted—half to the treatment of sciatica, and half to the detailed history of the chief spring of Teplitz, at the time when a mine six miles off was flooded; this happened in February 1879. By the aid of certain engineering processes, the water returned in May 1881, has gradually increased, and now has nearly reached its original level.

Dr. Eberle in the first place offers judicious remarks on the theory of the operation of thermal water, and then proceeds to say that a very large number of cases of sciatica are sent to Teplitz. The most common causes of it are, damp and cold, traumatic causes, and pressure, as of pregnancy, &c. Absolute dyscrasiæ, such as the syphilitic, are more apt to produce other forms of neuralgia than sciatica. He finds that the rheumatic cases, those from damp and cold, are the ones that yield most easily to treatment. The means of cure at Teplitz are the warm water baths, hot douches, peat-baths, electricity, and massage. When there is much pain, hypodermic injections have to be used. Nerve-stretching is not mentioned.

9. Mr. Fuller writes as one who knows the country, and is able to dispel the somewhat misty views that most of us entertain about South African stations. The difficulties of long journeys in bullock carriages need no longer be necessarily encountered. Ceres, 1,700 feet high, with a plateau near it of 2,700 feet, and Cradock 3,000 feet, among the best stations, are both on the railway. In the Free Orange State, Boshof and even Bloemfontein are comparatively small distances from the railways. Those stations are at a height of between 4,000 and 5,000 feet above the sea-level. The great recommendations of the Cape stations for phthisical patients are their altitude and the dryness of the air. Mr. Fuller makes many useful practical remarks on the climate of Cape Town and other stations along the coast. All who propose sending invalids to the Cape should read this little book.

10. Any one who has lived in a hot country knows what a blessing it is to have some station on a high mountain to resort to, with the view of escaping the hot winds and dust of the plains. Mr. Murray thinks that such a station may be secured for Melbourne. The fine mountain Baw Baw, rising to a height of 5,000 or 6,000 feet, will, it is hoped, be accessible from Melbourne within a day, by the help of the railways and a new road. The upper slopes of Baw Baw, it is said, afford excellent ground for villas, and Mr. Murray looks forward to the time when the inhabitants of Melbourne and their families will be able to seek health from the invigorating climate of the mountain. May it be so!

J. MACPHERSON, M.D.

ARTICLE 5857.

Histoire du Choléra aux Indes Orientales avant 1817. Par J. SEMMELINK, Ancien Médecin Principal de l'Armée des Indes Orientales Néerlandaises. 8vo., pp. 169. Utrecht. 1885.

THIS work may be divided into its positive and its negative portions. To commence with what is positive, the author, following up a hint given in *The Annals of Cholera*, that further notices of cholera might be found in Dutch records, has examined them patiently and carefully, and gives us the result of his investigations.

Instead of successive epidemics of cholera having been (as he says has been alleged by some) the cause of the excessive mortality of Batavia, he has been able to show that the real causes have been fever, dysentery, and scorbutus. These diseases have also been the main causes of the great unhealthiness of Dutch ships in old times.

He has searched for notices of cholera, commonly known to the Dutch by the name of *bort*; but has not met with much success; he has only come on one positive case of the disease in ships, and one highly probable one in Bengal. But he has been more fortunate in discovering four notices, hitherto unquoted, of the disease in Dutch authors, in Batavia, Amboyna, Goa, and Ceylon. He does not consider any of those cases to have been more than cholera nostras; none of them to have been cholera maligna. Nevertheless, although it is but a small contribution to the subject, still Dr. Semmelink gives some aid in following the diffusion of *bort* or *mordexin* in the East up to the year 1753.

The negative side of Dr. Semmelink's work is meant to be a destructive criticism of Drs. Macpherson and Macnamara's histories of cholera—an attempt to confute the facts recorded by them. He believes that the disease *mordexin* mentioned by them, was never true malignant cholera, but cholera nostras, caused by changes of temperature, by exposure, by bad food (such as mushrooms), by fruit, by rice, by toddy, by bad water, by mental emotions—in short, by the whole series of circumstances which are to this day often supposed to be the exciting causes of malignant cholera. When the cases of cholera have been very severe, they have been misunderstood cases of pernicious fever, *febris intermittens algida.* He evidently thinks that no mention of the occurrence of *mordexin* is of any importance, so long as it is not declared to be the chief cause of mortality in the place, having forgotten that in no tropical country does the mortality from cholera approach in extent that from fever, dysentery, and diarrhœa. The disease, according to him, is not cholera maligna, if single cases occur without spreading, or if there be no epidemic of it, or if it be not described as being contagious. We have already said that Dr. Semmelink's book is devoted mainly to criticising the work of his predecessors. To reply to his strictures, to enter on criticism of criticisms, is a dry enough task, and one in which readers would not be at the trouble of following one. It would be very easy to point out many inaccuracies and misapprehensions on his part of statements made in *The Annals of Cholera*, but no one could be expected to be at the trouble of studying such details. Besides, Dr. Semmelink does seem to have endeavoured to represent fairly the opinions of the above-named authors.

But, even supposing that all the author's criticisms on the accounts of previous writers were just and accurate, he might have saved himself the trouble of his painstaking investigations. Objections such as his were long ago met in anticipation. If he had read with attention what is said in the *Annals*, p. 81, about the varying nature of the notices of cholera that are to be found in histories and travels and medical writings, 'how little facts—not in themselves sufficient, yet when taken together irresistible—make most impression on those who are most familiar with this disease,' he would have seen that full and complete accounts, with all symptoms regularly detailed in all cases, are not to be found, nor could they have been *à priori* expected to be so. We possess, however, a sufficiency of facts and of symptoms to satisfy the requirements of those who have any real acquaintance with the disease, and with its, within certain limits, varying symptoms.

Apparently our author's great test for cholera being malignant, is its being epidemic; and he has not been able to satisfy himself that cholera ever was epidemic in the East before 1816–17. He has read the history of the epidemic outbreak at Goa in 1543, which may be taken as a typical instance. Correa, who was merely a historian, mentions such symptoms as vomiting, intense thirst, fearfully painful cramps, eyes broken (sunk), nails of fingers and toes black and shrivelled. 'The sound and the sick fell victims to it alike. So great was the mortality, that the bells tolled all day long. The patients barely lived the day through, or at most the night, in such measure that out of one hundred attacked at most ten recovered. There were twelve, fifteen, or twenty burials daily.' Yet of all this Dr. Semmelink—will it be credited?—remarks with simplicity, that the symptoms are rather those of poisoning by impure drinking water than of Indian cholera: just as poison and poisoned wells are always suspected by untutored minds as the causes of sudden pestilence of whatever description. One would almost doubt whether he knows what Indian cholera is. As he has failed to recognise malignant cholera in this account of the disease at Goa (and he certainly will find no more complete one in early records), we can only say that his mental vision and ours are differently constituted, and that there is no probability of any amount of argument leading to agreement in opinion between us.

The general argument in favour of the occurrence in early times of cholera in India is shortly as follows. All writers who have described the ordinary diseases of the more Eastern countries, such as fever, dysentery, small-pox, and diarrhœa, have mentioned in addition another disease of various degrees of intensity, of which vomiting and purging and spasms were the chief characteristics. This disease was most commonly called *mordexin* and *haidsa* (*passio cholerica* being given as its Latin equivalent), although it had local names in different districts. The name of *mordexin* has only died out in this century. The other popular name, *haidsa*, is to this day the commonest term in the East for malignant cholera. Besides the undoubted occasional occurrence of epidemics such as that at Goa, it is further the case that those who wrote of *mordexin* always regarded it as a pestilence, A'Costa called it a particular pestilence. Of the two Dutch authors, Bontius and Clusius, the first said it was as much dreaded in Java as the pest in Holland, and the latter called it a pestilential disease. But, in such matters, common instinct pronounces what is a pestilence, with an unmistakable voice. The natives of India, besides their specific names, had their general ones; the Hindoos that of *murree*, our murrain or pestilence, or *jurree murree*, sudden pestilence, and the Musulmans that of *el ouba* or *waba*, the very name by which the Arabs in Algiers characterise the modern invasions of malignant cholera. The words *murree* and *ouba* have been applied by the natives of India to all spreading pestilences. The natives at least had no more doubt of the occasional spreading or epidemic character of cholera, than those who have studied the early history of the disease, *since fuller information on the subject has been available.*

No one has hitherto explained why, about the year 1817, cholera took on in a higher degree its spreading or invading character. Our author has his theory for this, but he is obliged to fall back on the indigenous cholera, against the malignity of which he has been waging a crusade all through his book. He says cholera nostras may be considered to have been like an egg which was sterile up to 1817, and then was fecundated by something, probably by Koch's comma-bacillus. We let him enjoy his theory.

But if cholera could be fecundated in 1817, why should it not have been so at an earlier period?

The root of the whole subject lies in the still undetermined question, whether there is a specific difference between cholera nostras and cholera maligna.

It does not appear to us that Dr. Semmelink has made out any point which can seriously interfere with the now generally accepted fact of the early prevalence of cholera of various degrees of malignity in India and in the East, to which Colonel Yule has recently added some interesting ones in his *Glossary of Anglo-Indian Terms*. J. MACPHERSON, M.D.

ARTICLE 5858.

Kystes, Tumeurs perlées, et Tumeurs dermoïdes de l'Iris. By E. MASSE. Paris. 1885.

THERE can be no doubt that this excellent monograph will take its place as a standard authority upon a hitherto somewhat obscure subject. Not only is it an able summary of the literature of the subject, but it contains much original work of great value. That some connection existed between a perforating wound of the eye and the formation of these cysts of the iris was suspected by Mackenzie, and rendered still more probable by Mr. Hulke's well-known paper in the *Ophthalmic Hospital Reports* for 1869; but it has been reserved for M. Masse to show the nature of this connection, and to prove upon evidence that is almost conclusive that the formation of these cysts and tumours is due to the introduction of epithelial elements into the anterior chamber at the time of the infliction of the wound.

After a short introduction and historical sketch the author gives seventy-two cases, with considerable detail, of cysts, 'tumeurs perlées,' and dermoid tumours. Three of these were instances of the latter. Of the remaining sixty-nine, forty-two were directly traceable to a perforating wound; in seven there was a non-perforating wound; in nineteen the history as to there having been an injury is imperfect; while in only one is it definitely stated that there had been no injury. The structure of the cysts varies somewhat. Usually they are situated upon the anterior surface of the iris, but they may be formed in its substance, or project from its posterior surface; and in some a lining of pavement epithelium has been seen.

The 'tumeurs perlées' are less generally known; they are sometimes multiple, are usually globular in shape, and consist of a large number of concentric layers. They are nearly always covered by an investing membrane, which is extremely thin.

Dermoid cysts of the iris would seem to be extremely rare, and the author has only obtained data of three cases: in each, the tumour contained several very fine hairs.

The chapter on etiology is by far the most interesting, and contains much that is original. The several theories which have been advanced to account for the formation of these cysts are reviewed; but, while admitting that the origin may possibly be different in different cases, the author strongly supports the theory advanced by Rothmund in 1871 that cysts of the iris, when following a perforating wound, are due to the transplantation into the anterior chamber of epithelial elements, such as eyelashes or epithelial scales. This theory has been opposed on the grounds that an analogous process is not known to take place in any other part of the body, that cysts sometimes form after a simple contusion, and that, for the implanted epithelium to live, it is necessary that the surface of the iris should be abraded. To these objections M. Masse replies that there is no other part of the body in which the conditions are at all analogous: the epithelial cell transplanted into the anterior chamber is bathed by the aqueous humour, rests upon a vascular structure, and is constantly open to inspection. The cases that follow simple contusion are comparatively rare, and may be caused in a totally different manner from those which follow a perforating wound; but it is suggested that even in these the effect of the contusion may be to detach epithelial elements from the posterior surface of the cornea. The third objection—that an abrasion of the iris is necessary—our author disproved by experiment: he found that, if a small flap of conjunctiva in a rabbit were introduced into the anterior chamber without any injury of the iris, it always lived and adhered to the latter.

The portion of the book that describes the author's experiments is the most important, but we have not space to do justice to it. In rabbits, he transplanted portions of conjunctiva and of cornea, and obtained genuine serous cysts of the iris. Eyelashes deprived of their follicles do not adhere to the iris; but if transplanted with the follicle, the latter adheres to the iris, and may cause the formation of a cyst or tumour, while the hair continues to live. Experiments upon the abdominal cavity led to similar results.

The author explains the occurrence of the dermoid tumour by the inclusion of epithelial elements in the fœtal period; such elements may remain quiescent until excited by an injury, such as a contusion.

The following are some of the 'general conclusions' which the author considers he has established. Injury plays an important part in the formation of cysts, 'tumeurs perlées,' and dermoid tumours of the iris. To explain the origin of the former two, when following a penetrating wound, recourse must be had to the theory of transplantation. In experiments on animals, such tumours can be produced by introducing epithelial elements into the eye. The occasional entry of hairs into the anterior chamber illustrates the ease with which minute portions of tissue may be carried in by the instrument that inflicts the wound. Dermoid tumours are probably the result of the fœtal inclusion of cutaneous elements. By introducing into the peritoneal cavity of an adult animal fragments of epithelium from very young animals, the formation of a true dermoid cyst may be induced.

W. ADAMS FROST.

ARTICLE 5859.

Sore Throat: its Nature, Varieties, and Treatment (including the Connection between Affections of the Throat) and other Diseases. By PROSSER JAMES, M.D. Fifth edition. London: J. & A. Churchill. 1886.

THIS work, which originally appeared in 1880, has reached a fifth edition. In its present shape it forms a handy volume of 363 pages, illustrated with woodcuts and with two somewhat diagrammatic coloured plates. The book consists of three parts; the first devoted to a 'Preliminary Sketch of the whole Subject,' the second to 'Diffused Affections,' and the third to 'Diseases of Individual Organs.' After a brief sketch of the anatomy of the throat, and of the nature and varieties of sore throat, the author passes on to the diagnosis and general treatment of sore throat. The diffused affections are next described under the headings of inflamed, ulcerated, granular, aphthous, fungous, exudative, exanthematous, and syphilitic sore throat. Afterwards the diseases are described as they affect the individual parts of the throat, from affections of the soft palate and uvula to 'external sore throat,' *i.e.* diseases implicating the cervical, thyroid, and thymus glands, &c. This arrangement is not the best that can be imagined, as it necessarily leads to a certain amount of repetition.

In the chapter on general treatment the author speaks highly of cucaine as a local anæsthetic for the larynx. In the treatment of granular pharyngitis he is not much in favour of the galvanic cautery. He relies chiefly on milder measures, such as the use of sprays, and painting with iodine, or with an ethereal solution of iodoform. On page 125 we have an account of Dr. James's useful 'pastils.' For amputation of the uvula he uses a sickle, which causes, he says, the cut surface to look backwards. The bistoury, or a sickle, is also recommended by the author for tonsillotomy.

These few remarks will indicate, to some extent, the character of the work. The new edition contains many important additions, including references to recent researches, as well as the author's own views up to the present time.

E. CRESSWELL BABER, M.B.

NOTES ON BOOKS.

ARTICLE 5860.

Memoirs of Austin Flint, M.D., LL.D. By A. JACOBI, M.D., President of the New York Academy of Medicine. New York. 1886.

THIS small testimony to the life and labours of an eminent Transatlantic physician, has been reprinted from the *New York Medical Record*, of April 1886, and was originally read before the New York Academy of Medicine. The deceased physician came of a medical stock, his father, grandfather, and great-grandfather having all been physicians in Massachusetts; hence he belonged to what Dr. Jacobi terms the 'aristocracy of intellect.' Born in 1812, he graduated in 1833, and since that time, without any interruption, he had practised his profession, successful alike in his professional, literary, and scholastic career, until it was brought to a close on March 13 of the present year. His life was characterised by a sterling integrity and devotion to the interests of his profession.

ARTICLE 5861.

Materia Medica for the Use of Students. By ISAMHARD OWEN, M.D., F.R.C.P., Assistant-Physician and Lecturer on Materia Medica and Therapeutics to St. George's Hospital, &c. Second edition. London: J. & A. Churchill. 1886.

THIS little book is a compilation for the use of students, and is intended to facilitate the acquisition of the details of materia medica, by placing the outlines of the subject clearly before them in such a manner that they may be clearly grasped and readily committed to memory. The present edition has been brought into accordance with the *British Pharmacopœia* of 1885, and the section on minerals and products of manufacture has been re-written. Under the new regulations of the examination in materia medica at the London College of Physicians, much of the botanical information is unnecessary, but the author has added a chapter on the medicinal uses of drugs, to meet the requirements of the examining bodies which still demand a knowledge of therapeutics at the primary test. The system of grouping and classification adopted is original, but is sometimes pushed to an unnecessary extent. The book, on the whole, may be considered to be a good specimen of the materia medica 'cram-book' with its advantages and disadvantages.

ARTICLE 5862.

New Commercial Plants and Drugs. By T. CHRISTY, F.L.S., M.S.C.I., &c. No. 9. London: Christy & Co. 1886.

THIS excellent little publication is a kind of link between commercial and scientific enterprise. The author avails himself of the opportunity to deplore the want of scientific enterprise in matters pharmaceutical in this country, and expresses a hope that the movement which has taken place in favour of technical education may lead to a better condition of things. His remark, however, that scarcely a single medical paper devotes space to the consideration of the action of drugs is hardly justified, and, where true, may possibly be excused by the fact that what is required is rather definite indications for the use of the drugs we possess than trials of fresh ones. The better separation of the alkaloids is, nevertheless, one which might well claim a little attention from practical chemists.

There are some well executed plates of the physiology of the *Sarcocephalus esculentus*, or Doundaké, which is used in the treatment of gastric and nervous complaints in Africa. The greater part of the work is devoted to commercial questions of culture, &c., of articles such as tea, tobacco, India-rubber, &c., and a second category includes papaine, kava kava, menthol, and other drugs of recent introduction. A full account is given of the natural history, physiological action, and therapeutical uses of Strophanthus, preconised by Dr. Fraser in the treatment of cardiac affections.

ALFRED S. GUBB.

ARTICLE 5863.

What is Consumption? By G. W. HAMBLETON, L.K.Q.C.P.I. London: J. & A. Churchill.

THIS is one of those little books which profess t settle any question with which they are dealing, i the most amusingly dogmatic manner. More tha ninety authors are tabulated as authorities, but n references to them are made in the text. The autho says in the introduction—'In the actual work, m experiments led me step by step to a clear conception of the nature of this disease'; but no details any experiments are given, nor any references published records of such. The *ultima causa* consumption, according to Mr. Hambleton, consis in this, that the lungs 'lose their power of adjustin themselves to external conditions,' and this loss adaptability is regarded as a natural consequence civilisation. To quote the text again—'that is say, those who have not sufficient power of adju ment of the lungs, are by consumption removed fr those who have, and what has been termed process of selection, takes place. And by t power of selection, the survival of the fittest effected.' In thus bringing the Darwinian theory bear upon the elucidation of the cause of consumption, Mr. Hambleton quite forgets that he has only given us the result of consumption, a result in which all other diseases take their share. Again, in regarding consumption as a process inherent in the gathering together of many people in one place, the fact that this disease exists abundantly in small villages and isolated houses miles away from any other habitation is utterly ignored. All the causes commonly considered as causes of consumption are only mentioned to be contemptuously discarded, the bacillus tuberculosis included; and men who spend their lives in patient endeavours to unfold the secrets of nature in a truly scientific spirit, are dismissed as having 'approached this subject with their minds prejudiced and their judgment warped by the theories they have sought to prove or reject, as the case may be.' E. J. EDWARDES, M.D.

ARTICLE 5864.

Experimental Researches upon Tuberculosis and Scrofula. By EDWIN WOOTON. Dublin: Printed for the author by John Falconer.

THIS pamphlet of fifty-four pages is a reprint from the *Dublin Journal of Medical Science*, and the information contained in it is imparted for the most part in a series of questions and answers. The following question and answer are amongst the earliest given. 'Is there detectable by the microscope, in tubercular pus, any form of life peculiar to itself? —No. The forms are those found in all septic matters, and present no peculiarities' (!) It may be mentioned incidentally that the date 1884 occurs on page 35, so that there is absolutely no excuse to be made for the above extraordinary statement, which suffices to stamp the character of the whole pamphlet. E. J. EDWARDES, M.D.

ARTICLE 5865.

Hydrophobia: M. Pasteur and his Methods.—By THOMAS M. DOLAN, M.D., F.R.C.S. London: H. K. Lewis. 1886.

THIS little study of the 'maladie à la mode' purports to be a critical analysis of the preventive measures of M. Pasteur in the matter of hydrophobia. It concludes with a table of the mortality from this cause in England and Wales from 1870 to 1883, and the text of a 'Dog Act' prepared by the author in 1879. It is difficult to make out what he thinks of the whole question, although there are traces of a certain *arrière pensée* in many parts. The author premises that, 'however mysterious the incubation of rabies has seemed to be in the past, it is rendered more mysterious still by the newer light thrown upon it,' a remark that may be described as 'faint praise;' and he terminates by saying that Pasteur's work will 'encourage research' and prevent people who have been bitten from losing heart.

ARTICLE 5866.

Miliary Abscesses of the Kidney in Typhoid Fever. By J. B. PAUL GALLOIS. Paris: Delahaye & Lecrosnier. 1885.

M. GALLOIS has studied miliary abscesses of the kidneys in typhoid fever in their clinical, histological, and pathological aspects, and has observed that they are not a lesion special to typhoid fever, but rather result from secondary septicæmia proceeding from an internal cause. The renal lesions present the character of suppurative periglomerulitis, doubtless caused by the migration of microbes through the capsule of Bowman, and their accumulation in the neighbouring connective tissue. The mechanism of this diapedesis is similar to that admitted by Cohnheim for leucocytes. This renal lesion cannot be diagnosed, but it is highly important to recognise the secondary septicæmia which supervenes. This should be treated with antiseptic intestinal solutions, either of carbolic acid, or of salicylic acid, with an equal weight of borax, which makes it soluble in water; this treatment also lowers the temperature, and is especially useful when quinine is not tolerated. W. VIGNAL.

NEW PREPARATIONS.

ICEBERG BRAND COD-LIVER OIL.

WE have received a sample of Messrs. Jensen & Co's 'Iceberg Brand Cod-Liver Oil,' which is alleged to be prepared exclusively from fresh cod's livers, thus securing a more agreeable flavour than when there is a want of care in their selection. The oil is limpid and bland in taste, and the specimen is evidently one of a high-class preparation. Even with people able to take the crude oil, it is always a matter of importance to obtain it as devoid of nauseating qualities as possible, and with the majority of patients it can only be taken on that condition.

THE V.O.B. BRAND OF SCOTCH WHISKY.

WE have had our attention called by Messrs. Charles Mackinlay & Co., of Leith, to the above noted brand of Scotch whisky, which has been supplied by them to the Refreshment Department of the Houses of Parliament for the last five or six years. Mr. R. H. Harland, F.S.C., F.C.S., Public Analyst to the Greenwich Board of Works, Mile End authorities, and to this journal, says of it: 'I have carefully examined this whisky. It is of very good quality, soft and mellow, and gives no indication of the presence of fusel oil or other deleterious compounds commonly present in immatured spirit, especially whisky. It is of fair alcoholic strength, agreeable to the taste, and a chemical analysis fails to discover the presence of anything but "old Scotch whiskey."'

MISCELLANY.

HYDROPHOBIA does not exist in Lapland; but two dogs brought from that country having been inoculated by M. Pasteur, contracted rabies, proving that Lapland dogs are not refractory to the disease.

DR. IRELAND'S book, 'The Blot upon the Brain,' is to be translated into German. The French translation of this book, which is being prepared by Dr. Edgar Betillon, of Paris, is nearly finished. The 'Blot' has been prohibited by the Russian Censorship. This is, no doubt, owing to the chapter on the hereditary insanitay of the Romanoffs, and the historical illustrations about the harm insane monarchs have caused to their subjects.

NEUTRALISATION OF SOUNDS.—At the Biological Society of Paris, M. d'Arsonval presented, for M. Charpentier, a note entitled 'De l'affaiblissement mutuel de plusieurs sons' (the mutual weakening of different sounds). M. Charpentier demonstrates that simultaneous sounds become weaker in proportion as they are nearer each other. [Prof. Tyndall several years ago described the conditions under which sound-waves neutralised each other.]

POWDERED BEEF-STEAKS AS FOOD.—In the *Annales d'Hygiène publique et de Médecine Légale*, May 1886, M. Poincaré states that beef-steak reduced to powder is more nutritious than bread, even when meat-broth is added to the latter, but less so than fresh meat. It is not a strengthening form of food. Dogs thus fed would also require bones. It may even disturb the digestion in the same way as food that is decomposed, and should only be used as a last resource, when a morbid condition renders other forms of food distasteful.

AT a recent meeting of the Paris Surgical Society, M. Poncet stated that the microbes of granulation were studied in 1881 by Sattler. M. Poncet detected in an eye, enucleated by M. Dehenne, the presence of a micrococcus in the interior and exterior of the granular cells. This investigator also found it in the membrane of Descemet, and also in the iris. M. Poncet considers it possible that the microbes had penetrated into the interior chamber in consequence of an incision; iridectomy had evidently been performed, and indications of it were evident in sections of the eye. M. Poncet showed drawings representing the position of the microbe in the granulations. Sattler's statement that this micrococcus is analogous to that of gonorrhœa M. Poncet considers erroneous, and asserts that it is much larger.

THE deaths of several French medical men have recently occurred. Amongst them is to be recorded the decease of Dr. Fournié, Physician to the Institute for the Deaf and Dumb. He has written several works on the laryngoscope, voice, speech, &c. He was also the director of the *Revue Médicale Française et Etrangère*. Professor Bouchardat has also died at the ripe age of 80. Dr. Bouchardat was the Professor of Hygiene at the Faculty of Medicine. He was the author of several works. M. Gillette, hospital surgeon, died after a very short illness. Dr. Louis Thaon, of Nice, has expired at the early age of 40. Dr. Thaon especially studied tuberculosis, and this malady was the cause of his death. M. Thaon was the author of many medical works.

BLINDNESS IN RUSSIA.—Dr. Skrebitski has presented a communication to a congress of Russian physicians, held in the month of January, on very interesting work upon blindness in Russia. In summing up the data furnished by the military medical officers charged with the medical service of recruitment, he saw that from 1879 to 1883 the proportion of persons attacked with blindness of one or both eyes was about 1 per cent. In certain regions, as in the province of Kieff, which is very populous, the proportion was 1 in 65. On the contrary, in the province of Archangel it was 1 in 390; but even this proportion was higher than that stated in the other countries of Europe. To take into consideration only persons completely blind of both eyes, the proportions are, in Russia, 1 in 125; in England and Ireland, 1 in 1,015; in Saxony, 1 in 1,406; in Denmark, 1 in 1,429.

FAVUS AMONG CONSCRIPTS.—At a recent meeting of the Académie de Médecine, M. Feulard furnished statistics concerning favus among conscripts. From 1873 to 1885, 3,872 men were rejected by the examining jury (conseil de revision) because they had favus. The departments which furnished the most of these cases are Pas-de-Calais, Nord, Aveyron, Tarn, Hérault, Landes, Seine-Inférieure, and Côtes-du-Nord. These departments constitute three distinct geographical groups—North, West, and South. These results are the same as those obtained by M. Bergeron, who made similar researches in 1865. From 1841 to 1849 M. Bergeron recorded 730 annual exemptions from favus. At that period, a comparatively small number of men were examined. From 1850 to 1860 the yearly average is estimated at 438 men with favus among the total number examined, but the real number is much higher—it may be estimated at 800. From 1873 to 1885 the yearly average is stated to be 300; there is thus a decided decrease of more than half in the number of exemptions from this cause. Inspection of schools is indicated as a means of eradicating favus from the population.

BOUISSON'S TREATMENT OF HYDROPHOBIA.—In the *Lancet*, April 1886, p. 655, an article states that centres have been established in various parts of London and elsewhere, to carry out the treatment of hydrophobia by M. Bouisson's method. This consists in washing the wound with a solution of ammonia. The patient then has a daily vapour-bath at a temperature of 42° to 48° R. (126°·5 to 140° F.), with a view to produce profuse perspiration for seven consecutive days, and draughts of a hot infusion of borage, also with a view to promote diaphoresis. M. Bouisson is stated to have cured himself after the development of the symptoms of hydrophobia. His method is regarded by some as a sure preventive and a certain cure if begun on the first day of that of the disease developing; on the second day its effect is less certain, and later it has no effect in staying the course of the malady.

TEMPERANCE.—In the *Asclepiad*, January 1886, Dr. Richardson publishes an address on Temperance, delivered by him at the British Medical Temperance Association. The author advocates all young men to practise temperance by entirely abstaining from alcoholic drinks. By this means the four cardinal virtues necessary for a medical man are maintained—viz., precision, decision, presence of mind, and endurance. The lecturer goes on to show how much happier and better a man's life can be if he adheres to principles of total abstinence; and not only does he benefit himself, but, as a medical man, he is an example to so many others over whom he is able to exert his influence. It is stated that alcohol cuts down by disease, in England and Wales alone, one thousand persons a week. In protesting against the use of alcohol, there is no occasion to forfeit its claim as a medicine, but in respect to its medicinal use one cannot be too careful. If alcohol be prescribed, give your reason for so doing, and never conceal anything from those who question you as to its value in the particular case in which you advise its use. The author strongly urges the younger members of the profession to set their face against the use of alcohol, and by furthering the cause of temperance, more will be done to favour the decrease of disease and to diminish the death-rate of the country than by any other means.

INTERNATIONAL EXHIBITION AND CONGRESS OF CLIMATOLOGY AND HYDROLOGY.—An exhibition of instruments, books, and plans, bearing on climatology and hydrology, followed by a congress, has been arranged to take place at Biarritz, France, commencing on Oct. 1, under the honorary presidency of the Minister of Commerce. The committee of organisation, presided over by Dr. Durand-Fardel (the acting president of the congress), is desirous of securing the attendance of gentlemen from different countries who are interested in these questions. A certain proportion of the presidents and vice-presidents of general meetings and sections will be selected from among the foreign members. The fee for membership is ten shillings, which will confer the right to attend the meetings of the congress, and read papers (which will be collected and published subsequently), and will enable the member to travel on the French railways, to and from Biarritz, at a reduction of 50 per cent. on the usual fares. An admirable series of excursions have been organised into the adjacent Pyrenees, which will comprise all the points of interest within reach. These excursions are open to all the members, but as the number of travellers is necessarily limited, early applications are requested to prevent disappointment. Further details as to the itinerary excursions, &c., may be obtained on application to the delegate of the central committee in London, Dr. Vintras, physician to the French Hospital, 19A Hanover Square, W., who will be pleased to afford any information. It is hoped that English manufacturers of hydrological and meteorological instruments will avail themselves of the opportunity to bring their articles before the public.

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EDITED BY ERNEST HART

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Article 5867.

WEIGERT ON COAGULATIVE NECROSIS.

C. Weigert, in the *Deutsche Med. Wochensch.* for October 25, begins this subject by remarking that recent discoveries, particularly the new light shed on blood-coagulation, demand a thorough revision of the theory of tissue-coagulation ; and to be quite clear, he deems it necessary to summarise what has already been written on the subject.

I. *General Characters of Coagulative Necrosis.*—In the change called coagulative necrosis, the death of the cells is easily proved by their incapacity for function, and their eventual sloughing away, absorption, or retention as a *moles iners* with chalky tendency. That their death is accompanied by coagulation, is evident from the fluid or semifluid cell-contents becoming solid, so as superficially to resemble fibrin or casein, whence the change has been formerly termed fibrinous or caseous. But, under the microscope, the coagulation is seen to be neither fibrillar nor granulated. Only the elements of the tissue appear, and the change, therefore, affects them alone. Later on, the coagulated substance falls away into crumbs, which become suspended in a fluid, as happens also in the case of true fibrinous coagula. It is more difficult to decide about the coagulation, when the solidified albumen assumes a transparent hyaline condition. Then there is seldom any characteristic change manifest to the naked eye; though sometimes, when the hyaline elements are abundant, an appearance is produced like that of the flesh of salmon coagulated by smoking. But the microscope shows the hyaline brightness of the cell-substance.

And in other cases, where the naked eye appearance is not markedly fibrinous or caseous, we may yet fairly infer the existence of coagulation if we find, microscopically, changes identical with those observed, under similar conditions, in cases where the coagulation is macroscopically pronounced.

But that coagulative necrosis and fibrin-formation are related appears from the fact that, under certain conditions, true fibrin may take its rise from tissue-cells, and from their having the same varieties and secondary changes. There is even a possibility of transition between the two.

II. *The Absence of Granularity in Tissues Affected by Coagulative Necrosis.*—When this change has gone on for more than twenty-four hours, a disappearance of granules invariably occurs ; except, of course, when the necrosis affects a portion of tissue already non-granular, such as muscle which has undergone waxy degeneration, or cells swollen by tubercle. New granular cells may subsequently be found growing up between the dead cells. Now, granules having recently been shown to be intimately connected with the higher functions of cells, in regard to growth and numerical increase, their disappearance before the death of the entire organism is alone significant of serious disturbance of vitality, or even death, of the affected cells. But since, under certain conditions, granularity disappears in substances hardened even in alcohol, and since, above all, putrid cells (as in gangrene) lose their granules, the other criteria above mentioned are requisite to diagnose coagulative necrosis with certainty.

III. *Other Views of the Character of the Changes designated Coagulative Necrosis.*—To explain the appearances presented by coagulative necrosis, in the case *e.g.* of kidney-infarct, three different explanations have been formerly given. 1. Some have supposed without warrant the presence of blood-fibrin. 2. Others have looked on the change as a simple necrosis. But a simply dead piece of kidney is very differently constituted. 3. Many, with Virchow, have thought the thickening of the albuminous substance, especially in the case of a caseous tendency, to be due to loss of fluid. To support this view, Virchow argued that, just as dead vegetable tissue dries, so decayed animal tissues are unable to retain their aqueous components. But a cellular mass, lying in the midst of the body-moisture, is under very different conditions from a leaf exposed to the air. There is, moreover, the important fact that in the central nervous system decayed elements are subject to softening, *i.e.* an excess of fluid. The erroneous opinion that caseous tissues are indurated, is presumably to be ascribed to their dry appearance. But a boiled egg, though apparently dry, has not lost its fluid. A second reason was drawn from the observation in certain suppurations, after a time, of caseous masses, exhibiting under the microscope shrivelled cells (tubercular corpuscles of Lebert) ; a phenomenon held to be due to an absorption of fluid from ordinary pus. But in these cases the suppuration is the result of processes which, to begin with, produce caseous changes ; and the cheesy deposits are occasioned by absorption of the intermediate fluid, whereby the caseous elements already present are left. The author has never seen matter not of tubercular or similar derivation become caseous, though he does not deny that this may occur. When indurated artificially, ordinary pus acquires the consistence of condensed milk, with a tough skin on the surface. But, besides these objections to the grounds on which the induration theory rests, there are facts which militate directly against it. On examining under the microscope glands with a caseous tendency, or caseous pneumonia in an early stage, it is impossible for one to pronounce that the cells of the caseous portions appear shrunk in comparison with those of the often gelatinously infiltrated surroundings, as, according to that theory, they should. The same can be said of caseous objects taken from cancer, in which, owing to the size of the cells, any shrinking from loss of fluid would readily appear. Later on, indeed, cells may really shrink ; but this is no necessary characteristic of caseous development. Hence the induration theory falls to the ground. Caseous development presents rather a variety of coagulative necrosis, and under this view alone are tubercular processes intelligible.

IV. *Conditions for the Occurrence of Tissue-coagulation.*—Four factors must contribute to produce tissue-coagulation. 1. The tissue must die : this is the primary condition. 2. It must contain coagulable substances. These appear to be present in all protoplasms, but in the central nervous system to so slight an extent, that coagulation is microscopically absent here in circumstances producing it in other organs. Virchow explained this, in the case of the softened brain of a caseous extra-uterine fœtus, as owing to the capsule of the organ preventing loss of fluid; but partial softenings of brain from embolism are not accounted for by such a theory, for here the necrosed part is surrounded by absorbent vessels. 3. The necrosed part must be permeated by blood-plasma or lymph. This fact, established by the author, was at one time held, after A. Schmidt, to be due to the action of the fibrinogen of the fluids on the fibrinoplastin of the tissues. Rauschenbach, however, has recently demonstrated that blood-plasma, independently of its fibrinogen, exercises on dead tissues, even outside the body, a chemical action resulting in coagulation. But a certain excess of plasma is necessary, because 'the coagulable parts of the cells quickly exhaust the plasma;' otherwise the whole body at death would suffer coagulation. This indispensable quantity can, in the living body, only be conveyed to the cells when the necrosed part is fairly surrounded by a continuous and free supply of fluid constantly being removed by absorption, as regularly happens in the case of infarcts. Superficial necroses are only exceptionally placed under such conditions, as when they consist of very thin and easily permeated layers of epithelium; also when, as Heubner has lately proved in artificial diphtheritis, though the tissues decay, the vessels still offer a free and general passage to the blood. The same free and intimate supply of plasmatic fluid appears to be essential to the disappearance of granules. But since, as Senftleben showed, granules will disappear from portions of lung, which, already coagulated by alcohol, are introduced into the abdominal cavity of a living animal, this phenomenon cannot be regarded as dependent on coagulative necrosis, but as a co-effect of the plasmatic permeation required for that process, and having, perhaps, some relation to the production of a ferment. As an indication, however, of plasmatic permeation, it is, with all due consideration of possible error, as valuable a sign in relation to coagulative necrosis, as Langhaus' giant-cells in connection with tuberculosis.

V. *Combinations of Coagulative Necrosis with Other Changes.*—With the conditions just named other factors may co-operate, which, without interfering with the coagulation, yet influence its character and form. Thus fatty degeneration may precede it, in which case a softer appearance is given to the affected tissues, and drops of oil are found in the cells. This is seen to a small extent in infarcts, but more notably in caseous degenerations. It is questionable if the fatty change can occur later in the coagulated substance, independently of new cells. Again, the cell-bodies, especially of epithelium, may present abnormal vacuoles; of this kind are the changes in diphtheria described by Wagner. Further, anomalous fissures may be found in the tissues from the crumbling away of some cells before coagulation has occurred. Lastly, the fibrinous substances which Rauschenbach, in his experiments, derived from cells outside the body, are naturally different from those developed in the body, resembling entirely ordinary fibrin. This leads to the discussion of the question, in what light the relations of coagulative necrosis to proper fibrin-formation are to be regarded.

VI. *Relation of Coagulative Necrosis to Fibrin-formation Proper.*—The author refers to the researches and views of A. Schmidt and his pupils on the one hand, and of Hayem, Bizzozero, &c., on the other, but declines to enter into the question of the connection, if any, between *blutplättchen* and leucocytes, or of their respective claims to be agencies concerned in ordinary fibrin-formation. He contents himself with pointing out that Schmidt's pupils, among others, have certainly shown that white blood-corpuscles suffice for the production of fibrin, and have, moreover, proved, by experiments outside of the body, the same capability to reside in other cells. If we assume this property for *blutplättchen* as well, and regard it as certain that the fibrinoplastin, whether yielded by these or by leucocytes, may be dissolved side by side with the fibrinogens already in the living blood-plasma; then fibrinous coagulation will take place when, under the influence of the ferment, substances dissolved or finely suspended in plasma and derived from disintegrated cells or *blutplättchen* are precipitated. The substances contained in tissue-cells could, with the help of plasma, generate fibrin outside of the body only if the cells were chemically or mechanically destroyed; and Rauschenbach has actually demonstrated the formation, in this way, of fibrin possessing the same fibrillar or granulated character as ordinary fibrin, and showing no remains of the old cellular structure. But the affair is different when the fibrinoplastin, instead of being furnished to the plasma, dissolved or in a state of fine division, by special cells or by others after artificial destruction, remains lying in the cells. Then, if coagulation is to occur, the plasma, being readily deprived of its fibrinogen, must be brought to the cells in a continuous stream, while the used-up portions are removed. In this case, the coagulation takes place within the cells, and the resulting mass still presents, in the main, the structure of the original tissue, the cells appearing as little solid lumps without nuclei.

While further experiments are required to decide the question, how far the leucocytes are concerned in blood-clotting, certain pathological observations speak for at least their partial co-operation in ordinary fibrin-formation. Thus, in the absence of pus and of putrid virus and other things unfavourable to coagulation, the richer an exudation is in leucocytes, the denser the resulting fibrinous mass. Passive transudations, poor in white corpuscles, contain little fibrin. Why this rule does not hold good in leukæmia, has been explained by recent experiments of the Dorpat School. Again, transitions are found between ordinary fibrin-formation and leucocytes which have undergone genuine coagulative necrosis. The latter are to be seen in cheesy collections, in inflammations of serous membranes, and in human thrombi. In the pseudo-diphtheritis of the throat and palate, the brilliant flakes observed were years ago explained by the author as formed by leucocytes which had crowded out of the mucous membrane to the surface, in masses too dense to dissolve in the surrounding liquid; and the peculiar structure of the parts, then assumed as necessary to allow this, has since been demonstrated by Stöhr. Now there exist just here, between these flakes and the ordinary fibrin in the trachea, transitions in the shape of trabeculæ, a fact of value in support of Schmidt's theory. Whether, however, *blutplättchen* or leucocytes are the active agents in ordinary fibrin-formation, this process and coagulative necrosis are closely connected; both are due to 'the influence of the plasma on dead protoplasm' (Rauschenbach).

Those who, opposing Schmidt, believe that all the components of fibrin exist already in the living plasma, to be precipitated under the influence of the ferment, must allow that fibrin is not deposited in living tissues; and must regard coagulative necrosis as the deposit and coagulation in dead cells, without addition of material from these, of the substances dissolved in the plasma. Even on this view a thorough permeation, not a mere moistening, by plasma must be supposed for the deposit in the cells of sufficient molecular fibrin to form the proper coagulation-product. Then, to explain the exceptional behaviour of the central nervous system; some elements of the body would have to be considered, in a sense, 'incoagulable,' as not allowing their substance to become incorporated in the coagulum. But, whichever of these views we take, our conception of the process as a coagulative necrosis, and our further consideration of it, will be in no way affected.

VII. *Further Stages of Coagulative Necrosis and Fibrinous Formation.*—These two processes are alike in the changes to which they are subject.

1. Both are apt to become calcified with a rapidity which varies in different cases, and is much greater in the herbivora than in man. The author believes he may lay it down as a thesis, that not only may all coagulated masses become chalky, but that, conversely, wherever chalkiness is pathologically found, a coagulation must have preceded it.

2. Softening occurs, as before mentioned, where considerable fatty degeneration is also present. But it is found in other cases as well, especially in the less firm kinds of coagulative necrosis, as cheesy development, and in thrombi. The cause is quite obscure, except in pyæmic thrombi, where it may be assumed to be solution of albumens by micro-organisms.

3. In the change called hyaline the substance becomes more translucent and more strongly refractive. Von Recklinghausen has, with the approval of many, assumed this process to be one isolated from coagulative necrosis. Weigert, however, while not regarding all that this observer describes under the name of hyalin as belonging to coagulated substances, considers as descendants of these such typical examples as canalised fibrin and the products of pseudo-diphtheritis. He does not think that any of the characteristics claimed for the so-called hyalin are opposed to this view. Taking of these (1) the chemical, namely, insolubility in ammonia and acids, he points out that Schmidt's 'transition-fibrin' dissolves in the body-fluid, whereas, when coagulation is perfect by thorough operation of plasma, the resulting substance is more difficult or even incapable of solution; and that a further influence of the fluid may again alter the condition of solubility. Recklinghausen himself regards this characteristic of little importance. In regard (2) to the tinctorial behaviour of hyalin, namely, its staining deeply with acid dyes (carmine, picrocarmine, hæmatoxylin, eosin, and acid fuchsin), it is admitted that only eosin and acid fuchsin are of these reliable. But these two also stain a great many histological objects very strongly, and particularly the coagulative necrosis in cases of infarcts, so that this very reaction would speak in favour of the relationship of hyalin to coagulated substances. (3), Recklinghausen's description of the origin and development of hyaline bodies tallies with Weigert's own accounts, on the one hand of coagulation-necrosis, on the other of its change into the hyaline state; for he says it occurs where cells containing much protoplasm abound, admits the probable influence of plasma on the protoplasm in its formation, and describes the 'welding together' of the cell-bodies.

The relationship of the two processes having thus been shown not to be contradicted by these characteristics of hyalin, it remains to mention several facts directly supporting it. 1. In coagulations outside the body, the resulting substance is sometimes turbid and granulated, sometimes translucent. Thus, while Swiss cheese is hyaline, many other cheeses are not. Again, albumen precipitated in the ordinary way from serum is opaque and flaky, while serum as prepared by Koch to serve as a nutrient bed forms a perfectly hyaline mass. Therefore there can be no essential difference between the two forms of coagulation. 2. Within the body, substances previously coagulated can be proved to have become hyaline. Thus it is a fact that, wherever fibrin may in ordinary circumstances be supposed to occur, hyalin may later, under particular conditions, be found. Indeed, there may often be seen—in inflammatory deposits on serous membranes, in thrombi and other 'canalised' fibrins, in large aneurysms and in endocarditis—hyalin in the older parts, ordinary fibrin in the more recent. 3. In the so-called throat-diphtheria, *i.e.* pseudo-diphtheritic throat-croup, hyaline flakes may be found in one place (fauces or palate) simultaneously with ordinary fibrin in another (trachea), and the two formations may pass into one another. It is much more natural to believe that they are essentially the same, and only by accident appear as different substances, than that there is a different process in each place; since in similar circumstances elsewhere (as in the uterus) flakes arise which are not hyaline. 4. As in the case of fibrin, so in that of coagulative necroses can transitions to hyalin be traced. In heart-infarcts sometimes the affected fibres are slightly granular and even still striped, sometimes exquisitely hyaline. The kidneys, in cases of infarcts, tumours, and chromium poisoning, afford similar examples. Waxy degeneration of muscle is a coagulation leading from the commencement to hyaline formation. 5. Hyaline developments appear side by side with cheesy formations, especially in tuberculoses, making it highly probable that they are stages of the same process.

The question now arises, What are the factors which determine that a coagulation shall become hyaline? Taking the former albuminoid examples, the welding together of the coagulated particles may be effected, in the case of hyaline cheese, by the artificial pressure, in that of hyaline stiffened serum, by the slowness of the coagulation. So, within the body, we can scarcely assume the hyaline result as always due to one and the same condition; but it seems to be especially favoured by the influence of a considerable excess of plasma on the coagulated or coagulating substance. This may take place in different ways. (*a*) A very intimate action may be long maintained by the plasma on substances already coagulated through their constituent masses falling apart and allowing a thorough penetration by the fluid. This is the case in old infarcts, in Langhaus' canalised fibrin, and in certain forms of cheesy development. Pressure may be an additional and even important influence in the case of many fibrins which become hyaline, as the deeper layers in aneurysms. (*b*) From the very first the plasma may be in great excess over the coagulating protoplasms. In this way the author has tried to explain the hyaline masses in pseudo-diphtheria of the fauces, the anatomical arrangement here accounting for the immense exudation (Sect. VI.) (*c*) The size of the individual coagulating particles may be very small as compared even with a not excessive supply of plasma. This is particularly the case when, in an organ, only the parenchyma dies, the vessel-bearing stroma remaining alive. The affected elements may become from the very first hyaline (waxy degeneration of muscle), or, after a very short time (renal epithelium in chromium poisoning).

From what has been said we may conclude that many of the so-called hyaline formations are to be reckoned among coagulated substances. Of those concerning whose origin we have no positive evidence, it is possible that some only may be so reckoned. Weigert, however, would include under category (*c*) above, the deposit on capillary walls or on elastic membranes, which is chiefly meant nowadays in speaking of hyalin, and with which Recklinghausen very properly classes amyloid deposits, they being a still later phase of the coagulated substance. This hyalin could not (according to Recklinghausen's theory) take its rise from the membrane-cells, these being few and deficient in protoplasm. He appears to think that it owes its origin to dissolved leucocytes, but he has no proof of this; and no leucocytes are ever found in connection with the deposits, either in their original form or as flakes. It seems difficult to avoid the explanation that the material—derived from disintegrated leucocytes, or *blutplättchen*—separates out into a very finely divided state, coagulating before deposition; and that the small size of the coagulating particles, as compared with the quantity of plasma, renders the deposit hyaline from the first.

4. A further change occurs, which may be called reconstructive: formations appearing like sclerosed connective tissue, as the author has observed in heart-infarcts. The somewhat similar fibrous parts of fibro-myomata consist chiefly of denucleated hyaline muscle-fibres, and but sparingly of true fibrous tissue. Something which appears to the naked eye like connective tissue may also arise from ordinary fibrin, especially in the walls of aneurysms. Microscopically, it exhibits hyaline fibrinous remains, interspersed with a small amount of tissue.

G. Dale, M.B.

Article 5868.

FORTÜNATOFF AND TCHELTZOFF ON THE PHYSIOLOGICAL ACTION OF BITTER SUBSTANCES ON DIGESTION.

The action of bitter substances (*amara pura*) on the animal system has been as yet studied but very inadequately, notwithstanding the fact that they have been from time immemorial used in daily medical practice, as well as in daily dietary (as ingredients of beer, chocolate, &c.).

There exist three theories which endeavour to explain the stimulating influence displayed by bitters in regard to the secretion of digestive juices. According to Traube's teaching, bitters give rise to an increase of arterial tension, which leads, in its turn, to an augmentation in the secretion of digestive fluids, and to a consecutive rise in the action of the organs concerned, with improvement of appetite and digestive power. According to Ludwig, bitter substances stimulate directly the sensory nerves of the digestive glands. Meanwhile, Buchheim and Engel explain the beneficial influence of the remedies by their antifermentative action, by their arresting any formation of morbid products of the digestion. The latter two observers (1849) at the same time found that bitters, while present in the saliva, did not in any way influence the saccharification of starch, or the solution of nitrogenous substances in the stomach.

In order to verify Traube's hypothesis, H. Koehler (*Vierteljahrschr. für die Pract. Heilk.*, vol. iv., 1873, p. 49) injected cetrarin and columbin into the veins of rabbits. He found that the substances named gave rise to an initial fall and a subsequent increase of the blood-pressure, the former being dependent upon a direct paralysing action of the bitters on the cardiac muscle and its tonic nerves, while the rise was caused by their stimulating the vaso-motor centres. In general, Koehler came to the conclusion that his results brought a certain amount of support to Traube's theory.

In 1881, following the suggestion of Professor P. P. Sushtchinsky, Dr. S. A. Popoff, conjointly with Misses Varvara A. Küsakova, Minkina, and Veretennikova, repeated Koehler's experiments on bitters, injecting cetrarin and quassiin into the veins and under the skin in frogs, rabbits, and dogs. The results obtained (*Vratcheb. Vedomosti*, 1881, No. 40, p. 2669, and No. 41, p. 2687) were these. 1. Cetrarin (both in cold-blooded and in warm-blooded animals) acts directly on the cardiac ganglia. 2. It produces a slight rise of the arterial tension, followed by a fall. 3. The rise is dependent on the stimulating action on the vaso-motor centre. 4. The subsequent fall is caused by a paralysing action of cetrarin, both on the vaso-motor centre and on the heart. 3. When injected into the veins in dogs or rabbits, even large doses (one or two decigrammes per kilogramme of the animal's weight) of quassiin remain entirely harmless. 6. On intravenous injection, quassiin produces an increase in frequency of the cardiac action, and a slight rise in the arterial tension. 7. It diminishes sensibility and reflex action. 8. The decrease in the latter depends upon the influence of quassiin on the reflex centres in the spinal cord. The general conclusion reached by the latter observers was, that their experiments did not support Traube's theory; since, though the bitter substances produced some increase in arterial tension, this increase was very slight, and too fleeting to cause any augmentation in the secretion from the digestive glands.

In view of such an unsettled state of the question, as given by the fragmentary and cursory remarks above, Dr. Alexei M. Fortünatoff undertook a new series of experiments in Professor F. V. Ovsïannikoff's laboratory, in order mainly to examine the action of bitters on the secretion of saliva, gastric juice, bile, and pancreatic juice. For his researches (*St. Petersburg Inaugural Dissertation*, 1884, p. 43), he used Merck's preparation of cetrarin or cetraric acid, dissolved in carbonate of soda, and thus converted into cetrarate of soda, the main advantage of which is its easy solubility in water. The experiments consisted mostly in intravenous injection of the salt into dogs with artificial salivary, gastric, pancreatic, or biliary fistula. The results obtained may be given thus.

1. In doses of 1 to 3 centigrammes per kilogramme of the animal's weight, cetrarate of soda (cetrarin) causes an increase in the secretion of the submax-

illary saliva, ensuing within three to six minutes after the injection.

2. As a rule, the increase lasts from thirty to fifty minutes, its maximum being reached between ten and twenty-five minutes after the injection; then, a gradual return to the standard ensues.

3. The increase is mainly caused by a stimulating action on the secretory and trophic nerves, situated in the chorda tympani and cervical sympathetic nerve.

4. While cetrarin stimulates the action of the salivary glands, it does not pass off with the fluid secreted.

5. Intravenous injection of cetrarin produces no influence whatever on the secretion of gastric juice.

6. Being introduced into the stomach, or mixed with the gastric juice out of the body, cetrarate of soda is decomposed by the hydrochloric acid of the juice, and sets free cetraric acid in the shape of a white precipitate, which carries away pepsin, and thus arrests the process of digestion.

7. The introduction of cetrarin into the stomach sometimes gives rise to vomiting (which is probably dependent on swallowing of abundant saliva), and is usually followed by retardation of respiration, intermittent pulse, and a slight decrease of sensibility, which phenomena disappear within four or five hours.

The author states, also, that while experimenting on himself, he took four four-grain doses in two days, and felt pain in the stomach for more than a week afterwards; at the same time he adds that, during the cetrarin days, the daily amount of urea was increased about 6 grammes.

8. Intravenous injection of cetrarin increases the secretion of pancreatic juice. The increase disappears sooner than in the case of saliva, but, probably, depends on a similar cause, that is, on stimulation of the secretory nerves.

9. Intravenous injection of 2 to 4 centigrammes of cetrarin per kilogramme gives rise to a very marked increase in the secretion of bile, the increase lasting considerably longer than in the case of saliva. The percentage amount of solid constituents of the bile decreases, but the absolute amount increases. Division of the nerves situated close to the hepatic artery, of both the vagi (on their issuing from the diaphragm) and of the gullet (the latter being divided in order to insure complete isolation of the liver from all nerve-fibres which might otherwise escape the division), does not destroy, but only slightly weakens, the phenomenon. In view of that fact, as well as in view of a rise of the pressure in the superior mesenteric vein under the influence of cetrarin, it becomes probable that the increase in the secretion, as caused by the drug, is dependent (*a*) upon the action of the latter on the nerves of the hepatic vessels and biliary ducts, with a subsequent elevation of the blood-pressure; and (*b*) upon its direct action on the hepatic cells and, possibly, on the hypothetic intrahepatic secretory centres mentioned by Pflüger and Afanasieff (*St. Petersburg Inaug. Dissert.*, 1881).

10. The injection of 3 centigrammes of cetrarin per kilogramme causes an initial decrease (8 to 24 millimètres of mercury), followed by an increase (from 8 to 14 millimètres of mercury), and then by a secondary fall, of the arterial tension. Large doses (above 4 centigrammes per kilogramme) produce only a decrease of the tension. The increase is dependent upon a stimulating action of cetrarin on the vaso-motor centre; the fall is caused by a paralysing action of the drug both on the vaso-motor centre and cardiac ganglia (possibly, also, on the cardiac muscle itself).

11. Cetrarin produces an initial short retardation of the cardiac action, with a subsequent acceleration, which, under large doses, is followed by a secondary retardation. The alterations in the cardiac rhythm may be ascribed to a direct action of the drug on the intracardiac ganglia.

12. Large doses (above 4 centigrammes per kilogramme) cause a slight depression of the temperature of the body (about 0°·6 to 0°·8 C.).

13. Cetrarin, whether introduced into the blood, the stomach, or the rectum, may be invariably detected in the urine.

14. A 2 per cent. solution of cetrarin arrests mobility in the microbes of hay-infusion. A piece of meat kept in the solution at 15° or 16° R. (65°·75 to 68° Fahr.) remained sweet for sixteen days.

From the above facts, Dr. Fortünatoff draws the general conclusion that Traube's hypothesis is untenable; that the rise of arterial tension, produced by bitter drugs, plays only a subordinate part in increasing secretion; and that the increase of the latter is mainly caused by a direct action of the drugs on the secretory nerves (in the submaxillary and pancreatic glands), and, possibly, on the secretory cells themselves (in the liver).

In a preliminary note in the *Ejenedelnaïa Klinitcheskaïa Gazeta*, No. 27, 1885, p. 495, Dr. M. Tcheltzoff states that, following the suggestion of Professor S. P. Botkin, he has undertaken the study of the influence produced by 'pure bitter remedies,' in the shape of extracts, on the digestion, fermentation, and putrefaction. The author at present publishes the following results.

1. The addition of even small doses (0·5 to 0·25 gramme) of bitters to an artificial gastric juice (100 cubic centimètres) very markedly retards the digestion of freshly prepared fibrine.

2. The amount of peptones, as determined by the biuret-reaction, is invariably less than in controlling experiments.

3. The introduction of 0·5 to 0·25 gramme of a bitter extract into the stomach (in an animal with a gastric fistula) produces more or less distinct retardation of the digestion. In smaller doses (from 0·1 to 0·05 gramme), bitter extracts as a rule remain inactive, except quassia, which retards digestion even when used in small doses.

4. When administered in doses of half a gramme, bitters diminish the secretion of gastric juice.

5. In the presence of bitters, fermentation proceeds more energetically than in their absence (than in a control-specimen). An increase in the amount of a bitter extract increases the intensity of fermentation. [This statement has been established by experiments with extracts of cascarilla, gentian, calumba, quassia, trifolium, absinthium, root of rhubarb, chinchona bark, and cetraria.]

6. The same may be said in regard to putrefaction of the blood.

7. Microbes are developed by themselves in all the bitter extracts enumerated under 5.

Dr. Tcheltzoff is now studying the action of bitters on the secretion of the digestive juices, and on nitrogenous metamorphosis in the animal system.

V. Idelson, M.D.

Article 5869.

GRÜTZNER ON THE PHYSIOLOGY OF GASTRIC DIGESTION.

Dr. P. Grützner, of Tübingen, contributes to the *Deutsche Med. Wochensch.*, No. 26, 1886, the following article containing the results of recent observations of gastric digestion.

It has long been known that the gastric juice contains, besides a strong acid, substances which dissolve coagulated albuminous bodies, and cause milk to coagulate much more quickly than the gastric acid alone could do. These substances, called ferments, are formed together with the acid in the gastric glands. Formerly it was thought that innumerable flat cells, which line these glands, were thrown off and themselves dissolved during digestion (Frerichs). But Heidenhain has proved that they do not perish during the activity of the mucous membrane. Rollett and Heidenhain have further shown that there are two kinds of cells, besides the superficial cylindrical epithelial cells, that produce the mucus; viz. (1) the plainly visible peptic cells (Labzellen), and (2) cells called by Heidenhain *chief cells* (Hauptzellen), which are only with difficulty discovered on account of their smallness and fragility. It is as good as generally accepted that the latter produce the ferments and the former the acid.

The formation and secretion of the ferments proceed as follows. At certain stages of the digestion the chief cells are large and swollen, at other times small and turbid. The latter condition, chiefly observed at the height of digestion from the sixth to the tenth hour, is characterised by the fact that one obtains very little ferment from the glands with hydrochloric acid or glycerine. On the other hand, if the chief cells, after treatment with alcoholised glycerine (alcohol-glycerin), be bright and large when the dog experimented on is hungry, much ferment is obtained, and only a moderate number of these cells are dull and large, *i.e.* during the first hour of digestion. Langley particularly has found that the chief cells are filled with more or less dense layers of granules, which become denser and larger the more ferment is discharged from the glands. Thus during the stage of hunger the glands produce a supply which is stored in the chief cells, and during digestion this store of granules is discharged and utilised. These granules, however, are not in themselves the ferment, but are the material from which it is formed, and contain, as Ebstein and Grützner himself have shown, what has been aptly called by Schiff protopepsine. [In the same way the pancreas does not contain perfect trypsine, but prototrypsine, or—as Heidenhain, who made the discovery, calls it—zymogen.]

The proportion of pepsine in the gastric juice varies greatly, according to the stage of digestion. Directly after the introduction of food a quantity of pepsine is liberated, and at the same time much gastric juice is secreted, the relative and absolute amount of pepsine being very considerable. In the second hour the relative amount diminishes, but only to increase again in the fifth hour, in some cases even exceeding the original quantity.

Much light has recently also been shed on the formation and secretion of the *acid* contained in the gastric juice. Firstly, C. Schmidt has proved that the acid formed by the gastric mucous membrane is hydrochloric acid. Lactic acid is certainly also found in the stomach in the first hour or two of digestion, but it comes from the meat, bread, potatoes, &c., that have been eaten. After the disappearance of the lactic acid, the quantity of hydrochloric acid continues to increase, and digestion proceeds quickly. In from three to seven hours, according to the quality and quantity of the food, the stomach is empty. The more indigestible the food is, the longer it is before hydrochloric acid is found to be the only acid present in the stomach. It thus furnishes, in a certain way, a standard for determining the energy of digestion. These observations were chiefly made in the case of a hysterical patient, who, after taking fluids, emptied the stomach by vomiting. Yet it must not be thought that the hydrochloric acid is secreted only in the later hours of digestion. Its formation begins with the introduction of food, when the acid is not easily detected, it being often attached to small lumps of the chyme and covered by the saliva swallowed. In fact, the supply of the acid is pretty equal throughout the whole time of digestion.

Ellenberger and Hofmeister have published very instructive experiments made on horses and pigs (*Fortschritte der Medicin*, vol. iii., 1885, p. 587). Horses were fed with oats on an empty stomach, and killed at various stages of digestion. The contents of the stomach at first showed little acid (lactic chiefly), later on more (chiefly hydrochloric), the pepsine increasing with the acid. In the first hours, on the other hand, there was more and more sugar, which reached its maximum in the third hour and then fell, at which time the increase of pepsine set in. In the pigs, too, the first stage of digestion was found to be amylolytic, and the second proteolytic. If hydrochloric acid were artificially introduced during the first stage, the digestion of the starch would be interfered with, with serious results; for even in a very weak solution of hydrochloric acid ptyalin has no action. But in man the amylolytic stage is doubtless of shorter duration than in the horse. In the carnivora, again, this stage is perhaps altogether wanting, or at any rate it is not dependent on fermentation produced by the swallowing of saliva. As their saliva contains no ptyalin, the starch is probably transformed into sugar by the action of the gastric acid. Too little attention seems to have been hitherto given to the first stage of gastric digestion, in which the amylaceous portion of the food is digested. John Elliott.

Article 5870.

RECENT OBSERVATIONS ON THE COMMUNICABILITY AND INFECTIOUSNESS OF TUBERCULOSIS.

The discovery by Koch of a bacillus peculiar to and characteristic of tubercle, and the development, first of local, then of general, tuberculosis, which unfailingly followed its inoculation into the eyes of rabbits, and even of dogs, and that when the infective material was derived from gelatin-cultivations continued for many months, naturally suggested the probability of the disease being communicable by inhalation of the breath, or of an atmosphere charged with the products of the respiration of tuberculous persons. Giboux, indeed, as long ago as 1882, asserted that he had succeeded in thus infecting rabbits; but the observations and experiments of others gave for the most part negative, or at best equivocal, results.

Von Wehde tried in vain to detect the bacillus, or to infect animals with the dust collected by the exposure of glasses moistened with glycerine in wards occupied by phthisical patients; and Schmidt demonstrated their absence from the breath of persons whose sputa swarmed with bacilli. Hirt observed that tubercular phthisis was frequent among operatives working in ill-ventilated, though not necessarily dusty factories and workshops, while such as were employed in the open air or in better ventilated, even draughty, apartments, at occupations involving the inhalation of metallic or other mineral dust, though suffering from every form of irritative and destructive lung-disease, showed no special proclivity to tubercle, and attributed the difference to the fact that, in the case of the former, one affected individual might, if the disease were infectious, communicate it to the others. It is true that, from the experience of hospitals for consumption, no satisfactory evidence can be obtained of the communication of the disease to nurses, &c., and that in private families there is always the indeterminate factor of hereditary predisposition to explain cases in which one member succumbs after another, without the necessity of assuming infection.

Some supposed examples, as those described by Dr. L. von Lange (*Wien. Med. Wochensch.*, 1885), prove no more than the injurious influence on the health of patients closely confined with others suffering from a chronic febrile disease such as phthisis; and Drs. Behnke and Naunyn (*Die Verbreitung der Lungentuberkulose durch Kontagion*: Königsberg, 1884), in an inquiry into 150 cases of tubercular phthisis, of which more than a third were alleged to have been due to direct infection, found, after excluding all cases in which the disease was distinctly hereditary, or in which brothers or sisters had already suffered, only six, or 4 per cent., of the whole number in which they could admit the possibility of contagion, and therefore they reject the doctrine entirely. There is, however, an evident fallacy in Naunyn's argument—viz., that if the disease be caused by the presence of the bacillus, only in cases arising in intra-uterine life can the disease be correctly described as inherited; that what is generally inherited is a special susceptibility or vulnerability, in other words, a greater facility of infection than exists in other persons; and this view receives no small support from the fact that members of such families, placed under more favourable hygienic conditions and removed from risks of infection, as at sea, in the open country, or as colonial farmers, escape, while others remaining at home succumb, especially if in attendance on those already suffering, a strange nurse not inheriting the like susceptibility to infection escaping.

Dr. H. Bennet (*Brit. Med. Jour.*, Oct. 11, 1884) mentions the case of a healthy young officer, whose family was free from all suspicion of hereditary taint, returning from New Zealand with his wife in an advanced stage of the disease, with large cavities and copious purulent expectoration. For four months they occupied a small cabin, the port being mostly closed on account of the rough weather. The wife died immediately after their arrival in England, when the husband manifested symptoms of the disease. This appears to have been a case of a comparatively insusceptible man succumbing to extraordinary and prolonged exposure to infection. Last year, E. A. Tscherning, of Copenhagen, reported an unique case of tubercular inoculation in the human subject. A strong healthy servant girl, 24 years of age, cut her hand with a fragment of a spittoon containing the expectoration of her tuberculous master, rich in bacilli. A nodule developed near the wound, which was removed by a surgical operation; and later the axillary glands became infected, and were completely extirpated, with the result of arresting the further progress of the infection. Bacilli were discovered after each operation.

The milk of tuberculous cows frequently contains bacilli, especially when the udders are the seat of disease, and its communicability by such milk to sucking calves has been conclusively demonstrated by Dr. Bang (*Deutsch. Zeitschr. für Thiermed.*, Band xi, Heft 1-2) and others.

The presence of bacilli has not been satisfactorily shown in the milk of tuberculous women; but Dr. Demme (21 *Jahresb. des Berner Kinderspitals*, 1884) reports a case of the infant of such a mother dying early of tuberculosis confined to the organs of digestion, and two cases of apparent infection; one the infant of a tuberculous mother, who developed shortly after birth a tubercular nodule at the umbilicus, whence the disease extended to the peritoneum; and the other a previously healthy child of three years, who suffered from extensive eczema of the inguinal regions. Repeated examinations failed to detect any bacilli until the child had slept for some time with a tuberculous girl, when the specific bacilli were found, and the child subsequently suffered from tubercular disease of the left hip-joint.

The long duration of the incubative period, if such there be, is itself a source of difficulty; but the frequent localisation of tubercle in the mesenteric glands of infants, and its rarity in the same region in adults, is certainly strongly suggestive of infection through milk. In this connection the observation by Professor Johne * of the only instance in which he was able to examine the fœtus (7 months) of a cow slaughtered on account of tuberculosis is extremely interesting, the tubercle being confined to the liver, that is, to the organ which would first receive the bacilli through the placental circulation, just as the mesenteric glands would those derived from milk.

The few recorded cases of congenital tuberculosis, one of which was reported by Merkel last year (*Centralbl. für Öff. Gesund.*, Band iv, 1885, p. 104), suffice to disapprove the perfectly gratuitous assumption of Baumgarten (*Zeitsch. für Klin. Med.*, 1883, vi. 1), that tubercle may remain latent throughout childhood and early youth, congenital tuberculosis being rather a rapidly fatal form derived from a mother in an advanced stage of the disease.

If we understand heredity in the sense already given of an unusual susceptibility to infection, it is perfectly compatible with a belief in the origin of every case in infection from without. Heredity in the case of other diseases by no means necessarily implies direct transmission of the disease itself from parent to child. It does so, indeed, in congenital syphilis; but insanity is undoubtedly hereditary, and yet no one ever saw a mad baby! Here heredity means the transmission by descent of such a structural or dynamic character of the intellectual and emotional centres, which renders them peculiarly amenable to derangement by influences which would be powerless to disturb more normally constituted minds.

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* *Fortschritt der Med.*, 1885, No. 7; or *Wien. Med. Blätt.*

Whatever obscurity may surround the origin of tubercular affections of the glands, bones, and joints in childhood, the part played by heredity in their etiology cannot be denied, and has been strongly insisted on by Volkmann, the most thoroughgoing advocate of the identity of scrofula, caries, lupus, and other surgical diseases with tuberculosis, as familiar to the physician. But along with this hereditary proclivity, he remarks the frequency with which the localisation of the tuberculosis is connected with some wound or breach of surface which, in other and healthier subjects, would have healed without ulterior consequences, reminding one of the susceptibility of certain constitutions to erysipelatous infection whenever the skin is abraded.

Wolffberg (*Deutsche Med. Wochensch.*, 1885, Nos. 13,14) defines heredity in tuberculosis as the inheritance of a *disposition*, this disposition being a peculiarity of certain cellular elements, transmitted through the spermatozoon or ovum to those structures which are most susceptible of becoming the seat of tubercular infection, as the lungs, glands, synovial membranes, &c. : the conformation of the thorax, the aspect, complexion, and other characteristics familiar to the clinical physician, and popularly supposed to be in some way contributory to the development of tuberculosis, being in reality but associated and collateral phenomena, consequent on the same constitution which renders certain tissues and organs peculiarly susceptible of tubercular infection. English physicians have insisted most on the configuration of the thorax, but Rokitansky, Virchow, Beneke, Bollinger, and others, have called attention to the abnormally small size of the heart in phthisical persons, and Brehmer even based a system of treatment on the hypothesis that the feeble heart was the primary cause of the disease. If any benefits were conferred by his 'cure,' they were doubtless owing to the general improvement of the muscular, circulatory, and respiratory functions.

Since in these countries, where tuberculosis in every form is rife, it is evident that everyone is constantly liable to receive infection from without, our efforts must obviously be directed to the minimising of the disposition or susceptibility, by improving the health and increasing the resisting power of the individual and of the race.

Among the problems which it is highly desirable should be solved by careful inquiries into the histories of families and the health of communities and classes of operatives, &c., are whether this susceptibility can be transmitted to a third or fourth generation, the intermediate members of the series having, in consequence of favourable surroundings, &c., escaped infection ; whether persons, free from hereditary taint, who have acquired tuberculosis late in life, can transmit the susceptibility to their children born respectively before and after the development of the disease in their parents ; how far cachectic conditions, as syphilis, cancer, or the effects of dissipation or of privation in the parents, may assume the form of susceptibility to tuberculosis in their offspring ; how far those irritative lung-diseases, comprised under the general term *pneumokoniosis*, induce susceptibility to tubercular infection ; and whether the children of such persons show any tendency to tuberculosis if placed amid favourable circumstances.

The solution of each and all of these would contribute to that of the wider and all-important question, whether this 'disposition' could not be minimised, and even ultimately eradicated from a community, by the improvement of their material, social, and moral conditions, aided by dissuasion from marriage of all persons actually infected, and discountenancing marriages between individuals having an hereditary taint, as well as the close association of such with any in whom tuberculosis has already manifested itself.

E. F. Willoughby, M.B.

Article 5871.

SCHWABACH ON DISEASES OF THE EAR IN CONNECTION WITH DIABETES MELLITUS.

Dr. Schwabach commences a paper on this subject in No. 52 of the *Deutsche Med. Wochensch.* by remarking on the scantiness of the literature of this subject. He himself had a case in 1876, of acute purulent inflammation of the middle ear, in many respects similar to two cases since noticed by Raynaud and Kirchner, the former describing his as 'Otitis media diabetica.' A case mentioned by Toynbee is also similar. Dr. Schwabach therefore proposes to give his own case, and then to compare it with those mentioned, in order to determine in how far they agree, and whether, on the strength of this agreement, we may assume an etiological connection between the affection of the ear and diabetes mellitus.

Dr. Schwabach's Case.—A man, aged 43, had been so far free from any affection of the ear. Six years before (1870) the first symptoms of diabetes mellitus appeared, and in the next year he suffered from extensive furunculosis. After that, he tried Karlsbad water, with fair success. In 1876 he came to Dr. Schwabach, complaining of pain in the right ear, particularly at night, and in the vicinity of the mastoid process, with noises in the ear and deafness. Pressure on the process was very painful. The meatus was red and slightly swollen, and, close to the drum, there was a small quantity of viscid excretion, and a small perforation was observed. Through this a very little pus was got by Politzer's method, the hearing being thus somewhat improved. Leeches and ice were applied, and after some days the pain ceased. But in a short time it came on again, and owing to the swelling of the drum the perforation could not be seen. Paracentesis of the drum was performed in the lower posterior quadrant, but only a small quantity of pus was discharged on the application of the air-douche, according to Politzer's method. In spite of the application of ice, the pain did not cease for a day or two. The swelling behind the ear became very full and hard, and in front an œdematous swelling extended to the upper lid of the right eye. In addition there was facial paralysis ; pulse 120, with high temperature. After some delay, the patient consented to undergo an incision near the mastoid process. This was made down to the bone, which proved to be extensively carious, so that the external table had simply to be broken through with the knife to open the mastoid cells, and so allow a large quantity of offensive pus to be discharged. The sharp spoon removed all soft bone, and all was cleansed with 1 per cent. carbolic solution, an antiseptic bandage being then applied. After this operation the pain abated considerably, and the patient was able to sleep. Every day the wound was similarly dressed, and there were copious discharges, till the liquid injected came back through the meatus, a little passing through to the nose and mouth. All went well till, in about a fortnight, a red swelling was noticed on the side of the neck below the incision, increasing in size and painfulness till a new incision released a large quantity of matter, when healing proceeded without interruption. The paralysis of the face disappeared, and the perforation of the drum was healed. About five months after the first operation the patient left Dr. Schwabach, but the latter learnt that the fistula of the mastoid process was completely closed, and that up to the time of death, from cerebral apoplexy, the ear gave no more trouble. During treatment for the ear, the average percentage of sugar in the urine had been 4 per cent., a year and a-half after commencement of disease of the ear 2·3 per cent., and later until death ·0.

*Toynbee's Case.**—He does not in any way connect the disease of the ear with diabetes mellitus, in a young man aged 29, who suddenly began to complain of severe pain, especially in the vicinity of the mastoid process. There were a discharge from the right ear, vertigo, and stupor, which all disappeared after the opening of an abscess behind the right ear. Six weeks later, he died. The *post mortem* examination showed purulent inflammation of the tympanum and extensive caries of the process. The fossa sigmoidea, lodging the lateral sinus, was completely destroyed; there was a deficiency in the process behind of the size of a pea, and the membranous sinus itself was thin, though not ulcerated. In Toynbee's opinion, the patient could have been saved by an early operation.

Raynaud's Case.—A diabetic subject, aged 47, was much reduced, and suffered from inflammation of the middle ear, with violent pain and considerable hæmorrhage from the ear. Death followed in twenty-three days. The *post mortem* examination showed osteitis of the mastoid cells, along with purulent inflammation.

Kirchner's Case.—This was a diabetic subject, aged 22, suffering from purulent inflammation of the middle ear on both sides, which appeared suddenly, accompanied by severe pain first in the right ear, and a few days later in the left. In six weeks it became evident that the mastoid process was affected by the inflammation. To prevent the matter from burrowing under the sterno-cleido-mastoid muscle, the purulent centre was laid bare, the fistula, with part of the mastoid process, opened up, and then an antiseptic bandage put on. Already, two days after the operation, considerable decay of tissue appeared in the wound, and in five days death followed. The *post mortem* examination showed considerable destruction of both temporal bones, pus in the right lateral sinus, the tympanum filled with thick pus, the process transformed into one large cavity, the fossa sigmoidea perforated along its whole length from the upper edge of the petrous portion, so that the lateral sinus directly adjoined the purulent centre. The point of the process was perforated to the size of a pea. There was a similar growth on the left side.

The author finds it a remarkable fact that in all these cases the otitis appeared quite suddenly, without any apparent cause; for, though it is seldom possible to assign a cause for the ordinary form of otitis, this must be explained by people not being accustomed to carefully watch themselves. Now, of the four cases given above, three were watched carefully in hospital, and the other (his own) by the family medical man; and in all the pain in the ear came quite suddenly, without any external injury. Another remarkable feature he finds in the fact that, in spite of early appropriate treatment, the inflammation at once attacked the mastoid process with such violence that the latter was extensively destroyed in a short time, a state of things never observed in acute inflammations of the middle ear, which are not caused by constitutional anomalies. Raynaud believes inflammation of the bone to be the primary affection (osteitis mastoidea), extending gradually from the cells of the mastoid process to the tympanum, *i.e.* the reverse of ordinary inflammatory processes. Raynaud also considers the osteitis to be a very natural result of diabetes, since inflammation of bone is quite common in it; he asserts that osteitis is one of those causes of necrosis often occurring in diabetes, and described by Marchal de Calvi as the result of an 'inflammatory gangrenous diathesis,' caused by diabetes mellitus. But Schwabach finds no basis for this theory of a primary osteitis in Raynaud's case; he rather considers it probable that the inflammation in the tympanum preceded the affection of the mastoid process, as generally happens. The sudden appearance of inflammation would seem to favour the theory that it was a result of diabetes mellitus. That in all cases the bones were so extensively destroyed by the inflammation, might be explained by an idiopathic inflammation of the tympanum, which, according to Politzer, is always accompanied by changes in the mastoid cells, so modified, however, by the diabetes mellitus, that the above-mentioned widespread destruction occurred.

This hypothesis Schwabach considers to be the more justified by the well-known fact that diabetes mellitus reduces the power of resistance of other parts of the body to the effects of otherwise unimportant external injury. In his own case he thinks, however, that the sole cause was diabetes mellitus. To be able to decide whether it always has this effect on inflammation of the middle ear, it would be necessary to have more data. Hence it is desirable that this should be watched and reported as frequently as possible.

To show that inflammation of the middle ear may not at all be influenced by diabetes, he gives another case he has himself observed.

A man, aged 40, suffering for two years from diabetes mellitus (2·3 per cent. of sugar), had suddenly violent pain in both ears, followed by discharge of pus and subsequent ease. A week later, Dr. Schwabach saw the man, and found moderate suppuration, and considerable deafness, also perforations on both sides in the lower anterior quadrant. Application of pulverised boracic acid was so successful, that the man considered himself cured. Three months later Dr. Schwabach examined him, and found the affection cured, the hearing perfectly normal, with 1·5 per cent. of sugar in the urine. Such favourable cases will sometimes occur, and often enough nothing will be heard of diabetes. The only question is, in what proportion these slight cases stand as regards frequency to more serious cases, such as those above given; and on the answer will wholly depend the determining of the etiological dependence of ear-affections on diabetes mellitus.

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* Toynbee, *Diseases of the Ear*, 1860, p. 326.

If it should be proved that the sudden appearance of otitis media, without apparent external cause, spreading quickly and violently over the cells of the mastoid process, is due to the rapid destruction of bone characteristic of the diabetic constitution, the result would be that frequently the attention of the physician would be directed to the presence of diabetes mellitus, even in the absence of other symptoms. Israel's experience is, that patients who do not complain of diabetic symptoms are those most likely to consult a surgeon. Only two out of twenty of his patients were conscious of diabetes.

Particularly interesting is the question whether, in such cases as those given above, opening of the mastoid process should be attempted. At the International Otological Congress, this question was discussed. Kirchner was of opinion that only in extreme cases operation should be attempted; and Kuhn considered that the softening of the bone proceeds so rapidly that an operation can be of little use, and strongly deprecated it. On the other hand, Moos thought that 'from the standpoint of euthanasia, operation was allowable.' Dr. Schwabach says his own experience confirms him in the belief that fear of unfavourable chances of healing in a diabetic subject should not deter one from operating, if it be otherwise imperative. The indications for opening the mastoid process he holds to be the same in diabetic subjects as in non-diabetic. In either it is the last resort, but must be carried out as soon as possible, to prevent the spread of decay of the bone.

One objection that might otherwise be brought against surgical operations in diabetic subjects: viz., that contact with the air favours the decomposition of diabetic tissues and causes ulceration, with which no known antiseptic can cope, is of no weight in the case of diabetic otitis media, since the Eustachian tube at the very outset admits sufficient air to the inflamed parts to allow the entrance of putrefactive agents. From this point of view, at any rate, it would be easier to decide on operating on the ear than on any other part, in which it would be a question of subcutaneous processes.

JOHN ELLIOTT.

ARTICLE 5872.

RAPTCHEVSKY ON THE MORPHOLOGY AND BIOLOGY OF KOCH'S CHOLERA-BACILLUS.*

IN the *Vratch*, No. 28, 1885, Professor J. F. Raptchevsky publishes an important and able paper embodying the results of his as extensive as careful researches which he undertook for verifying the morphological discoveries of Dr. Ferran (*see* the LONDON MEDICAL RECORD, March 1885, p. 83, April, p. 138, and May, p. 180). The author, who worked in Professor V. A. Manasseïn's bacterioscopic laboratory, employed only *absolutely pure* cultivations of Koch's bacillus, and most strictly avoided introducing any impurity. His observations embrace a morphological study of bacilli varying in age from two days to three months, and cultivated in meat-peptone jelly, alkaline broth, agar-agar, and on potato. Having introduced a portion of a culture into a drop of fresh sterilised alkaline broth in a moist chamber, he studied any subsequent changes for six days under the microscope.

As his observations show, young (from three to eight days') bacilli present some variations in their appearance, according to the character of the cultivation-medium. Koch's description tallies most closely with the bacilli cultivated in meat-peptone jelly and broth, though the latter medium gives somewhat shorter rods than the former. Young cultures always contain numerous almost straight rods, often lying about in pairs, and forming an obtuse angle. Besides, there are present short spirals, the number of which increases with the age of the cultures. When a very minute quantity of such a young culture from meat-peptone jelly is introduced in a drop of broth into the moist chamber, within eight to twelve hours there appear swarms of microbes, the newly born being somewhat thinner, extremely mobile, and forming spirals with numerous small but steep windings. The spirals also move about energetically, and present at this stage a close likeness to the spirochæte of relapsing fever. Proliferation of comma-bacilli and formation of spirals (both in a room at 15° to 16° C. or in a thermostat at 35° C.) proceed very rapidly and without the appearance of any intermediate forms or structures; that is, the microbe multiplies itself by scission, without formation of spores. In the middle of the rod there appears a bright zone, formed by a substance which does not take in fuchsine, and after a while two young rods become free.

In older (from ten to fifteen days') cultures from meat-peptone jelly, there appear a number of very long spirals, which are thicker than those described above, and have but scanty and slightly pronounced windings. Simultaneously there are discovered spirals, consisting of individual commas which still are kept together, and the concavities of which alternately look in opposite direction. Both of those forms are developed from the thin spirals through their growing thicker, elongated, and less mobile. Hence the thin, mobile, and sharply wound spirals gradually disappear altogether.

In still older (three to six weeks') cultures from meat-peptone jelly, along with the said thick spirals there appear numerous spheroid structures, varying in size from great minuteness to a red blood-corpuscle (6 to 7 micromètres). These bodies have dark even outlines, a slight greenish tint, and a homogeneous structure, take in fuchsine well, and lie mostly free, but sometimes are attached to an end of a spiral, or even six chainlike at several spots of a spiral. At the same time, it may be observed that one or other end of some of the thick spirals is bulb-like or thickened, while some individual links (rods) are considerably swollen. At this stage, the culture contains also numerous rods and spirals which have become thinner, have partly undergone a finely granular disintegration, and take in scarcely any fuchsine; in short, are dead.

Finally, in still older cultivations, besides the structures just mentioned, there are present more or less spherical bodies (from 1 to 8 micromètres in diameter), consisting of individual granules, having uneven granular outlines, and generally resembling a mulberry. Those mulberry-like bodies are mostly lying free, but sometimes are attached to an end of a spiral. The same granularity is now seen in the bulb-like thickening of the spirals. The granular substance is stained with fuchsine but slightly. A two months' culture consists exclusively of roundish granules, mulberry-like bodies, fine granular detritus of comma-bacilli, and spirals. The ordinary rods and spirals disappear, leaving scarcely any trace.

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* RAPTCHEVSKY, Professor J. F.—On the Morphology of Koch's Cholera-Bacillus. (*Vratch*, No. 28, 1885, pp. 455-60, with 5 figs.)

Similar changes are observed in cultures from alkaline broth. As to cultivations in agar-agar jelly and on potato, Dr. Raptchevsky was as yet unable to discover anything like the phenomena above (though Van Ermengem asserts that he saw at least some of the forms even in the media just named).

What is the meaning of all these forms? The author never saw any differentiation of substance of the homogeneous spherical bodies—which, according to Ferran, are 'oögonia,' or an initial evolutionary stage of proliferation-organs of the cholera-bacillus—into a granular and a hyaline part ('protoplasm' and 'periplasm'), with any subsequent formation of a female 'oösphera' and a male 'polinide.' Neither did he see anything like the formation of spores, and their subsequent enlargement and transformation into the large mulberry-like bodies, from which spirals grow. According to Dr. Raptchevsky, the homogeneous spherical bodies, free or attached to spirals alike, are gradually transformed *as a whole* into the granular mulberry-like bodies, which subsequently are simply disintegrated into individual granules, probably under the mere mechanical influence of moving comma-bacilli. The destruction or disintegration of the granular bodies takes place very rapidly, almost under the observer's eye, when a portion of a very old culture is introduced into a drop of broth containing numerous energetically moving rods. There exists not a single sign which might show that the homogeneous spherical or mulberry-like bodies, or their granular detritus, take any part in multiplication of the microbe. These bodies do not possess any active movement. They move only passively—either, when free, being pushed about by the bacilli (as red blood-corpuscles are moved by Obermeyer's spirochæte), or being dragged about by the spirals, to the ends of which they are attached. They lie quite immobile in an old culture free from actively moving rods or spirals. Then they remain lying unchanged, when new swarms of young rods and thin spirals appear, the appearance of which invariably coincides with the disappearance of older, thick, and less mobile spirals. Further, inoculation of a fresh nutritive medium with a portion of old cultures containing but few rods, but many mulberry-like bodies and granules, often does not lead to the appearance of rods. Taking all in all, Dr. Raptchevsky comes to the conclusion that the homogeneous and mulberry-like bodies are nothing but degenerative or morbid forms, originating under the injurious influence produced on the microbe by an exhausted nutritive medium, which becomes saturated with waste products of the vital process of the bacillus. The process of involution, leading to the death of the micro-organism, begins from the moment when the latter assumes the form of a thick less mobile spiral, with scanty broad windings. All the facts known up to the date point to scission of the rods and spirals as the single mode of proliferation of Koch's cholera-bacillus. V. IDELSON, M.D.

AN American exchange credits Mrs. Grundy with the saying—'That the doctor who writes a book gives himself away by showing that his time is not disturbed by patients.'

ARTICLE 5873.

ISRAEL ON TUBERCULAR OSTITIS OF THE FLAT BONES OF THE SKULL.

AT a meeting of the Berlin Medical Society on Jan. 27 (*Deutsche Med. Wochensch.*, No. 6, 1886) Dr. J. Israel dealt with the subject of tubercular ostitis and caries of the flat bones of the skull. With the exception of the more frequently occurring carious affections of the mastoid process, material for consideration of the subject is very meagre in the experience even of surgeons with an extensive practice, so that the handbooks up to the year 1880 contain little information. In 1880, Volkmann once more drew attention to Nélaton's description of this nearly forgotten form of the disease. Dr. Israel therefore thinks that he may describe a very instructing case, which he began to observe before Volkmann's work appeared, and which combines the whole of the pathology of this disease.

In 1878 a strong healthy boy, aged 6, was brought, his head having been injured by a fall. He was at first treated for mere superficial injury, and was discharged in a week with an antiseptic bandage round the head. In three months he returned with the wound still open, when closer examination showed that there was a fracture in the temporal region, with depression and overlapping of the edges. A fistula over the fracture admitted the probe deeply between the dura mater and the bone into granulation-tissue. At first his general health was still good, and he bore well the probings, the injections of iodine, and scrapings of the fistula. But gradually, with slight intermitting feverish attacks, there appeared on the right half of the skull three small circumscribed semiglobular abscesses, varying in size from a shilling to a florin at the base. Two of these were on the parietal bone and one on the frontal eminence. Palpation gave a feeling of fluctuation, and was painful to the patient. An incision caused a discharge of pus, and showed the bone bared of the periosteum. Soon symptoms of pressure on the brain appeared—*e.g.* somnolence, vomiting, and strabismus. One of the abscesses on the parietal bone presented isochronous rising and falling of the pus, so that the process evidently extended to the cranial cavity. The diseased portions of the bone had to be removed in order to relieve the brain of the pressure. The periosteum was scraped off the bone over a considerable area to form an estimate of the extent of the disease of the bone, which was found to be exactly confined to the base of the abscesses in a circular shape of the size of a shilling, and distinguished from a healthy bone by its bluish colour, the worm-eaten appearance of its cortical portion, numerous blood-spots, and partial demarcation. The diseased bone was removed with the chisel in layers, and in all three places there was found under the thinned cortical lamella a pale, sulphur-yellow, dry, cheesy infiltration of the bone-tissue. In front, owing to the thickness of the frontal bone, the skull had not to be quite perforated to remove the diseased portion, but farther back the entire thickness of the skull had to be chiselled away. The intracranial changes were now easily visible—yellow cheesy masses between the skull and dura mater, the latter in one part being covered with a spongy granulation-tissue, on which there lay a circular sequestrum of the inner table. The dura mater was scraped as far as the sharp spoon could reach, the granulations and cheesy masses being removed. On the same occasion, the fracture in the temple was laid bare, disclosing no tubercular affection of the bone, but extensive granulative formation between the dura mater and the skull, to which the fistula led. Here, too, the sharp spoon was vigorously used. While all these operative injuries were healing, two new sharply circumscribed lumps, half the size of a cherry, appeared on the right parietal and the left frontal bones. These were not abscesses, but light elastic granulation swellings, covered with healthy skin, which did not soften and fluctuate, but shrivelled up spontaneously, leaving deep cicatrices in the bone. Nearly simultaneously, a tubercular focus developed in the bone at the base of the skull. A curved incision round the auricle was made into the mastoid region penetrating the periosteum. The auricle in connection with the hinder wall of the cartilaginous meatus was lifted from the bone to allow the sharp spoon to reach and scrape the carious centre near the styloid process. Thus the sixth and last tubercular focus was removed. What is particularly noticeable is that the trephine-apertures healed with a growth of bone. The brain gave no more trouble, but for six years more there occurred continued formation of ostitic centres before the patient was completely cured. First there came the development of a cheesy focus in the right ankle, causing fungous inflammation of the joint, and necessitating extirpation of the astragalus and of the epiphyses of the tibia and fibula. This was successful. In a few months, however, all the tarsal bones of the right foot were affected with caries, and had to be removed, with the exception of the cortical plate of the calcaneum, of the size of a shilling, in which the tendo Achillis was inserted. A firm cicatricial tissue took the place of the bones so completely, that the absence of the latter was scarcely observable. The foot has been sufficiently fixed in the *equinus* position, to render it useful with the help of a proper boot.

In the meanwhile, caries developed in the second costal cartilage, and led to the formation of a cold abscess, which was cured by resection of the diseased part. But, to Israel's dismay, the left foot exactly followed the example of the right one. For four years, in which eleven operations were performed, attempts were made to save this foot, but it had to be amputated.

Since September 1885 the patient has remained healthy, having undergone altogether in seven years thirty-five operations. There was never a trace of tuberculosis in the internal organs.

Tuberculosis of the cranial bones is seldom met with. Dr. Israel has had four cases, of which three presented, in addition to affection of the calvarium, also severe multiple tubercular diseases of other bones, the lymphatic glands, and the subcutaneous tissue, so that the cranial caries was but a local symptom of widely spread disease. These three were cases of boys, aged 7, 8, and 10 years. In the fourth case, that of a man aged 22, the caries was confined to an unusual place : namely, the base of the skull, outwards and backwards from the foramen magnum, where there was a wide perforation of the bone. Otherwise caries usually attacks the parietal and frontal bones.

Dr. Israel remarks that Volkmann's term, 'perforating tuberculosis of the bones of the top of the skull,' does not apply to all cases, in as far as the tubercular process does not necessarily extend to the entire thickness of the skull. Three of Dr. Israel's cases also prove that there is not always only one focus in the skull, as Volkmann thought.

With regard to the pathogenesis of the case described above, Dr. Israel says that, though it is known that the tubercular bacillus is the cause of the disease, we ask in vain why the fungus settles just in the places above mentioned and not in others. As far as regards the bone, we know that the spongy substance is very favourable to tubercular disease, and that therefore the epiphyses of tubular bones, and the vertebral, tarsal, and carpal bones, are frequently affected, whilst the flat cranial bones and others deficient in spongy matter remain intact. If, therefore, we find this disease in an organ naturally free from tuberculosis, and occurring in the case of a healthy boy who has been externally injured, we must ascribe the occurrence to the external injury. And his experiences in other cases seem to bear out this theory. Neglect of such an injury may possibly tend to increase the danger.

John Elliott.

Article 5874.

BAGINSKY ON TETANUS IN SUCKING INFANTS.

At a meeting of the Berlin Medical Society (*Deutsche Med. Wochensch.*, No. 6, 1886), Dr. Baginsky described a series of symptoms which he had observed during the last two years in fifteen cases of infants in their first year, which he designated muscular contracture, or, more definitely, tetanus in sucklings. One case was a fair representative of all the rest. A child, weaned from the breast when three months old, suffered from slight indigestion, followed later by vomiting. The ocular muscles were unaffected, the facial were normal; both pectoral muscles felt hard, being in a state of considerable tension, while the muscles of the upper arm were relaxed. On touching the muscles of both lower arms, one saw the fingers striking up to the palm, and assuming the well-known position characteristic of tetanus. The abdominal muscles were not in a state of tension; those of the right thigh presented sudden rigid contractions at the slightest touch, the flexors as well as the abductors being affected. The limb was drawn up close to the belly, particularly when pressure was applied over the femoral artery. On the left side there was contraction, but not of the flexors, so that the limb was jerked straight out, the foot being in the equine position. The contractions were very painful. A gentle faradic current stopped them. A few days later, nutrition became defective, and strabismus convergens occurred. The excitability of all the muscles was so great, that pressure on a single group sufficed to put a stop to contractions in quite another part of the body. At the same time, vaso-motor symptoms of the skin set in. When the dyspeptic symptoms disappeared, the condition of the child grew normal.

This was the history of most of the cases. In all, the contractions varied under the eyes of the observer, and the attacks returned after pauses of a week and more. Another common characteristic was the defective state of nutrition. As far as the cases were tried for it, the patellar reflex was not influenced one way or the other. The peculiar swelling of the joints described by others Dr. Baginsky did not observe, except in one case, where there had been cholera infantum. The sensory nerves remained always perfectly unaffected. Turning to the question of etiology, Dr. Baginsky remarks that his cases nearly all occurred in the summer months, evidently because then nutrition is chiefly disturbed. But even when cholera infantum was present, loss of water did not play any prominent part, the attacks rather occurring not at the height of the cholera proper. As the children were mostly from three to four months old, dentition could have had nothing to do with the attacks. Baginsky is inclined to regard the disease as an affection of the peripheral nerves. The asymmetrical affection of the muscles, as well as the apparently intact state of the reflex function, and the peculiar mechanical excitability of the muscles, speak against central disease. There seemed, in fact, to be a toxic substance in the circulation that excited the nerves. As regards the diagnosis, care must be taken not to mistake the peculiar position of the extremities, common to many infants as simple reflex phenomena, for contraction. A characteristic feature is that the sensory nerves remain unaffected. Careful examination will clearly show the difference between this disease and affections of the central nervous system.

Prognosis is favourable, children seldom dying in these attacks. The treatment must be directed chiefly to the removal of the dyspeptic disturbances. In cases of great pain, Dr. Baginsky recommends hydrate of chloral given internally or injected.

JOHN ELLIOTT.

ARTICLE 5875.

REVERDIN ON RESECTION OF THE ANKLE.

IN the *Revue de Chirurgie* for March, Professor Reverdin, of Geneva, describes a new operation on the ankle, in which the surgeon, after exploration of the soft parts, may proceed either to simple extirpation of the astragalus, or to tibio-tarsal resection, or to amputation of the foot. The description of this operation is followed by general remarks on resection of the ankle.

In the first stage of this operation, an incision made through the skin and cellular tissue is carried from the inner edge of the tendo Achillis, just above the calcaneum, outwards and forwards over the tip of the external malleolus, and then obliquely forwards and inwards to the tendon of the peroneus tertius, terminating at a distance of about two inches from the bi-malleolar line. In the second stage, the tendo Achillis and the tendons of the long and short peroneal muscles are divided, and also the subjacent ligaments, the calcaneo-astragaloid joint being thus opened, and its outer portion laid bare. In the third stage, the insertions of the anterior and posterior peroneo-astragaloid ligaments are first separated from the astragalus by a raspatory, and next, in the lower flap, the outer portion of the astragalo-scaphoid ligament. The foot is then forcibly twisted inwards, and the pulley of the astragalus turned into the wound. The astragaloid insertions of the deltoid ligament and of the inner portion of the superior astragalo-scaphoid ligament having been similarly detached, and the interosseous ligament divided by a straight bistoury, the astragalus may be separated from all its attachments and removed. The last stage consists in removal of the malleoli by the saw, after separation of the periosteum.

The indications of pathological tibio-tarsal resection and of extirpation of the astragalus are, almost always, tuberculous affections of the bones or of the articulation. In those cases in which treatment by fixing the joint, blistering, and cauterisation has failed, or is manifestly inapplicable, Reverdin's operation, it is held, is likely to give good results. The mortality of tibio-tarsal resection has, under the influence of the antiseptic method, been reduced from 25·30 to 2·50 per cent. With regard to function, it is certain that, as a general rule, especially in the well-to-do, the utility of the limb after resection of the ankle is preferable to that of the best stump from amputation. It has also been proved, by the results of the numerous extirpations of the astragalus performed for luxations of this bone, that the functions of the limb, after this operation, may be performed in a very useful manner. Ollier has pointed out the satisfactory results, from a functional point of view, that he has gained from extirpation of the astragalus for tuberculous osteo-arthritis. The prognosis of the extirpation of this bone in pathological cases is not very grave, since, out of thirty-one instances that have been recorded, one only proved fatal.

The blot on both resection of the ankle and extirpation of the astragalus is the risk of relapse, and it is the frequency of relapse that constitutes the most powerful argument of the partisans of amputation. Our present knowledge of the tuberculous nature of fungoid osteo-arthritis serves to explain this relapse and its frequency in the tarsus as in the carpus. If any *débris* of tuberculous bone or of synovial fungosities have been left, the bacilli they enclose will multiply and gradually invade the surrounding parts. It will not suffice, therefore, to remove the greater part of the disease, but it must be followed everywhere. In order to attain this end, some surgeons prefer immediate ablation by cutting instruments, the extirpation of every diseased bone, the removal of every morbid deposit, and the scraping or cutting away of all fungous tissues. Other surgeons endeavour to modify the walls of the cavity of operation and the neighbouring bones by the actual cautery; whilst others, again, attempt to destroy the agents of infection, and to kill the bacilli by iodoform, chloride of zinc, lactic acid, or some other germicide. Whatever be the means adopted for destroying the tuberculous deposits, it is necessary to expose these deposits. To pursue and destroy them, the surgeon should be able to explore and attack with ease every corner and cavity that they occupy. The primary seats of tuberculous disease of the ankle are, in most cases, either the malleoli or the astragalus. It has been shown by Kœnig that very often the astragalus is primarily attacked either in its body or in its neck; and Billroth and Czerny have both established the frequency of astragaloid lesions in fungous disease of the ankle-joint. A clinical proof of this fact is also afforded by the good and permanent results of extirpation of the astragalus in the practice of Ollier, Kocher, and others. In a great number of cases, the patients do not come under treatment until the neighbouring joints have been involved, and when the ankle-joint or the astragalo-scaphoid, astragalo-calcaneal, and other joints, are already diseased.

From these pathological and clinical facts Reverdin draws the following conclusions. Extirpation of the astragalus may in some cases suffice to effect a cure; in other cases, it will prove an excellent means of exploration; the astragalus having been removed, the surgeon may make sure of the localisation of disease in this bone, or of its extension to neighbouring joints; to ensure this exploration being a thorough one, it is necessary that all the recesses about the seat of the astragalus be readily accessible both to eye and fingers.

In comparing the operations of Ollier, Hueter, Vogt, and others with the operation devised and practised by himself, Reverdin is convinced that, by its facility of execution and by the freedom it gives to exploration, his own is certainly superior. In this, it is stated, the extirpation of the astragalus is more readily effected, and allows a more complete exploration than any other method; this extirpation may be transformed at once into either a complete tibio-tarsal resection, or into an amputation of the foot by an internal plantar flap. Division of the tendons need not be attended, Reverdin thinks, with any serious inconveniences. In one of his cases, after recovery, there was certainly a tendency to unusual version of the foot, but this result has also been observed after resection by lateral incisions, and without division of any of the tendons. It is proposed in future to suture the divided tendons, although it is open to doubt whether reunion will be thus ensured.

W. Johnson Smith.

Article 5876.

BRUNNER ON THE TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA.

A paper, by Dr. Conrad Brunner, of Zürich (*Deutsche Zeitschrift für Chirurgie*, Band xxiii., Heft 1 and 2), on the 'Treatment and Results of Transverse Fracture of the Patella,' concludes with the following comparative estimate of the results of bloodless and operative methods of treatment. The author's conclusions are based on a study of forty-four cases treated at Zürich, and of a large collection of previously published cases.

In considering the question whether the treatment by puncture has any advantage over the expectant method, the author states that the results of the cases treated by Schede justify the assertion that osseous union is more likely to be attained by the former plan. In three out of five cases thus treated by Schede, there was union by osseous callus. In two only of thirty cases recorded by Brunner was there osseous union; and it is stated that such a result was not observed in any of 117 cases collected by Hamilton. The author's tables do not support the view that the plan of puncture tends to shorten the duration of treatment. The average length of the treatment in hospital, in Schede's as in other lists of cases, was seventy days. Brunner's records are opposed to the statement frequently made that the articular effusion, if not removed, usually results in chronic hydrops. Puncture, it is granted, may be practised as a safe and useful method in cases of very considerable hæmarthrosis, but, in fracture with slight or moderate intra-articular effusion, it is quite unnecessary. It has the advantage over the expectant method, that it is more frequently followed by osseous union of the fragments. That better functional results may be thus attained, remains to be proved by more abundant statistics than we at present possess. With regard to Volkmann's method of *sehnennaht*, in which the fragments of patella are brought together by sutures passed through the tendon of the quadriceps muscle and through the ligamentum patellæ, Brunner states that the results hitherto attained have not proved better or worse than those of older and less dangerous methods. In an allusion to Kocher's 'peripatellar' suture, in which a loop of wire is passed subcutaneously around the fragments, and to the reports of Oberholzer on this treatment, it is stated that a method, which in its application to seven cases of simple subcutaneous fracture of the patella has twice caused suppuration in the knee-joint, and once has resulted in death, is not to be commended.

The author next considers the question whether the results hitherto obtained by free incision into the knee-joint, and osseous suture, in cases of subcutaneous fracture of the patella, are such as to justify such practice. He is opposed to those who hold that such treatment is indicated by the alleged failure of other and older methods to attain a good result with regard to the function of the limb. Whilst acknowledging the disadvantages of non-operative methods, such as the long duration of the treatment, the very rare occurrence of osseous union of the fragments, and the frequently observed atrophy of the muscles of the injured limb, the functional result of such methods, he holds, is, in the majority of cases, such that locomotion is but slightly if at all impaired, and the patient is able to resume his occupation. The chief object in the treatment of fractured patella is the restoration of the function of the limb. It has been stated as an objection to non-osseous union of a broken patella, that the ligamentous bond of union, from a failure of due resistance, may be torn through on the subsequent application of slight force. Brunner holds that such is not the case. The cases he has observed of secondary fracture prove that the newly formed ligament is stronger than the bone; and it has been proved by Maydl that firm and close union of the fragments favours rather than protects against secondary fracture. In thirty out of forty-five cases of suture of the fragments, collected by Brunner, the result of treatment was good; and in thirteen of these cases osseous union and complete restoration were attained, in much less time than is ever taken by bloodless methods. Against these successful cases, however, are placed eight of intra-articular suppuration, eight of ankylosis, two of amputation of the thigh, and two which terminated fatally. Referring to the still more unfavourable returns of Chauvel, and asserting as facts that subcutaneous fracture of the patella is not a fatal injury, and that surgeons are acquainted with other and simpler methods of treatment which, without subjecting the patient to any risk, will enable him after a time to resume his occupation, Brunner holds that the operation of osseous suture is unjustifiable, save in some rare instances—as for instance, intra-articular suppuration after puncture—in which it is specially indicated. In considering the indications for this operation in cases of old fracture, Brunner acknowledges that fracture of the patella, when the fragments are widely separated, is followed by impairment of function, and that, owing to careless or bad treatment, the injured limb may be rendered quite useless. Here, it is conceded, the operation may be performed as a last resource. In most cases, however, of badly united fracture of the patella, Brunner holds that it is not the separation of the fragments alone, but chiefly atrophy and insufficiency of the quadriceps muscle, to which lameness is due, and that the operation, whilst removing the first cause, will not influence the second. In cases of faulty union and lameness after recent fracture, it is advisable to wait before deciding on operative treatment, as it has been proved that there is often much improvement in the condition of the limb in the course of time. In all such cases, operative treatment should not be resorted to, until after a fair trial of faradisation of the extensor muscles of the leg. W. JOHNSON SMITH.

ARTICLE 5877.

KIRMISSON ON EXTIRPATION OF TUMOURS IN SCARPA'S TRIANGLE.

IN the final portion of a contribution on the operative treatment of tumours in Scarpa's triangle (*Revue de Chirurgie*, May 1886), M. Kirmisson insists on strict attention to certain rules in the performance of operations for their removal. The dangers and difficulties often met with in such operations are due to the intimate connection of the large vessels of the groin with the tumour. Extirpation of a superficial growth developed in the skin and subcutaneous cellular tissue of this region usually presents but little special interest; but there is always a possibility that such a tumour may have extended by outgrowths into the deep-seated structures; and hence it is necessary that the surgeon should take the fullest precautions, even in cases that seem at first sight to be very simple.

In dealing with a subaponeurotic tumour, it is necessary to commence the dissection on the outer side, and to work with the knife towards its inner side; and also, if necessary, upwards and downwards, until the whole mass is detached except at the part corresponding to the sheath of the femoral vessels. If the growth be so large as to prevent necessary exposure and examination by eye and finger of the sheath, it may be divided and partially removed; that portion only being left for subsequent careful dissection which is more closely adherent to the sheath and large vessels. In the most favourable cases, the surgeon will be able to divide the adhesions without interfering with the vessels. In some cases, however, it will be found necessary to attack the vascular walls, and to practise either section and isolated ligature of the venous trunk, or simultaneous ligature of both artery and vein. Denudation of the vessels is not always free from danger. In some cases the vascular sheath is simply exposed, and there may be no necessity to divide this stricture; but in others it has to be cut away along more or less of its extent, and the walls of the main vessels are exposed at the bottom of the wound. In the latter case, there is always much risk of sloughing of a portion of the wall of one or both vessels, and of secondary hæmorrhage. When the femoral vein is included in the tumour, the prognosis of the operation is unfavourable. Of eight cases of this kind collected by the author, four were fatal. The wall of a vein resists much less than that of an artery the invasion of a neoplasm; and it is stated that, as many tumours in the groin are of a glandular nature, they are likely to be more closely connected with the vein than with the artery. It is held that the best treatment to adopt when the femoral vein has been wounded in the removal of a tumour, is to tie the wounded vessel. It has been proved by clinical records that ligature of the artery alone does not always suffice to arrest the venous hæmorrhage; and, moreover, ligature of the vein does not always cause gangrene, and, indeed, is much less frequently followed by such result than simultaneous ligature of both vein and artery.

The most serious cases are those in which the removal of the tumour necessitates resection and simultaneous ligature of both vessels. In five of seven collected cases, the operation performed under these circumstances had a fatal result. The author holds that a distinction should be made between cases in which resection and ligature have to be practised below the origin of the deep femoral vessels, and those in which it is found necessary to apply the ligature above the origin of these vessels. In the middle of the thigh and in the popliteal space, simultaneous resection of both artery and vein might be practised with prospect of success; but in Scarpa's triangle, on the contrary, where the resection would very probably have to be made above the deep femoral vessels, such procedure would be contra-indicated by the risks of gangrene of the limb. In cases in which, during the operation, the surgeon finds it necessary to perform resection of both artery and vein, in order to remove the whole of the tumour, his choice between resorting to this operation and leaving the operation unfinished will depend on such indications and contra-indications as may be afforded by his knowledge of the age and general condition of the patient, and the state of his vascular system. In the removal of a tumour from Scarpa's triangle, there is seldom any risk of wounding the crural nerve, as this structure is placed well to the outer side. One case has been reported in which the peritoneum was wounded during the extipation of a tumour in the groin. In such an operation, there is also a danger of opening the sac of a hernia and of wounding its contents.

In conclusion, M. Kirmisson states that cutting operations in and near the groin are often followed by erysipelas. This risk, which should always be taken into consideration in forming a prognosis, is to be accounted for by the abundance of lymph-vessels in this region. W. JOHNSON SMITH.

ARTICLE 5878.

JANY ON A MAGNETIC OPERATION ON THE EYE.

DR. JANY, of Breslau, has lately (*Deutsche Med. Wochensch.*, Nov. 19, 1885) performed with complete success a magnetic operation on the eye of a young mason, into which a steel splinter of a chisel had flown. The lids were intact. There was slight ecchymosis of the conjunctiva at the outer upper edge of the cornea. Beneath this ecchymosis there was a whitish line in the sclerotic, indicating the probable place of entrance of the foreign body; for just above there was a small particle of rust in the conjunctiva. With the speculum a fine, dark, threadlike, and lightly floating dulness of the vitreous body was at once seen. A foreign body with a metallic gleam was seen lying on the retina, near the equator and a little outwards from the vertical meridian. It was not freely movable, but was fastened to, or suspended from, the upper part of the retina by a fine veil-like white membrane.

On the following day, Dr. Jany first tried the effect of the electro-magnet on the splinter, with the further intention of magnetising it, touching the upper lid with the thin end of a tip screwed on to the electro-magnet, and again removing the point from the lid. This having been done several times with evident effect on the splinter, Dr. Jany made his preparations for the operation.

An incision was made in the conjunctiva 4 millimètres from the outer upper edge of the cornea, and the conjunctiva separated from the sclerotic with one of Cooper's scissors, backwards in the shape of a triangle, whose base rested backwards on the equator, whilst its blunt apex pointed forwards. A strabismus-hook introduced into the tendon of the external rectus, the under edge of which was laid bare, enabled the operator to turn the bulb inwards and upwards. A blunt hook kept the wound open. Bleeding was completely stopped. A Graefe's cataract-knife, with its edge directed backwards, was then plunged with one jerk about 1 centimètre into the bulb, at a distance of about 5 millimètres from the outer lower edge of the cornea, nearly in the diagonal meridian, and the wound widened in a meridional direction to about 8 millimètres. Slight hernia of the vitreous body occurred into this narrow wound.

An attempt was now made to extract the splinter with a large Voltolini's electro-magnet, by applying the point to the wound, but it was found necessary to introduce the point (2½ millimètres thick) from 1 to 2 millimètres deep into the wound. After a couple of seconds the point was withdrawn with the splinter firmly attached to it, without any 'click' having been heard. The splinter was 2½ millimètres by 1¼ millimètres by ½ millimètre, and three-edged. The conjunctival wound was closed with five button-sutures, after having been washed with sublimate solution, and then an iodoform bandage was applied.

In about three weeks the man returned to his work, the sight of the injured eye being as good as ever. Not even a trace of where the splinter had entered was to be seen six months after the operation.

Dr. Jany considers that he has shown that extraction of a steel splinter by means of the electro-magnet does not require any great amount of surgical skill. Acquaintance with the use of the speculum is the first requisite, so as to be able to determine precisely the position of the splinter; else the attempt had better not be made. A second, no less important requisite, is the possession of as powerful an electro-magnet as possible.

He then enters upon the consideration of the various merits of different apparatus used in Germany, and gives the results of experiments (partly on the eyes of dead animals) with a view of comparing Hirschberg's electro-magnet with one specially made by Professor Voltolini,* giving preference to the latter on account of its greater handiness and power. He strongly recommends the contemporaneous use of a galvanic battery of at least eight elements. If the splinter be firmly wedged into the membrane, even the strongest electro-magnet will naturally be of no avail. But, the more powerful the electro-magnet and battery, the less call will there be for introducing the instrument more than once into the interior of the eye, and the less likelihood of the splinter being dragged off at the wound in the sclerotic.

In conclusion, Dr. Jany lays stress on the following points. 1. The splinter should be magnetised before the operation (under cucaine). 2. If the 'click' be not heard, the point of the magnet must be left in the bulb five, ten, or fifteen seconds before being withdrawn; for the splinter has sometimes to work its way through the whole thickness of the vitreous body to reach the magnet. Larger splinters nearly always give the click, but it is not so with smaller ones lying within a strongly resisting medium. John Elliott.

Article 5879.

MIERZEJEWSKI AND ROSENBACH ON TUMOUR OF THE PONS VAROLII.

In the *Vestnik Klin. i Sudeb. Psikhiatrii, &c.*, vol. iii., Part I., p. 171, Professor J. P. Mierzejewski and P. J. Rosenbach, of St. Petersburg, describe in minute detail an interesting and instructive case of a pale, badly nourished burgess, aged 34, who six weeks before admission began to suffer from intense occipital headache and frequent vomiting, to which, two weeks later, paralysis of the right side of the face, squinting, occasional giddiness with diplopia, progressive emaciation and prostration, were added. On examination, there were found neuro-retinitis, paralysis of the right facial and abducent nerves, and paresis of the internal rectus of the left eye. The electric excitability of the paralysed muscles was increased. The patient was almost unable to stand; in walking, he slightly inclined himself towards his left side, but the muscular strength and sense, and the electro-muscular excitability of his limbs, as well as cutaneous sensibility, were normal, while the patellar tendon-reflexes were absent. His right eye was turned inwards and made spasmodic movements upwards, its abduction outwards being absolutely impossible. The left eye could freely move outwards, upwards, and downwards, but inwards it could move only as far as the median line. This paresis of the external rectus of the right eye and paresis of the internal rectus of the left were observed both on associated movements of the eyes, and on examination of one of them at a time. The pupils were equal, slightly dilated, and sensitive to light. Speech, memory, and intellect were normal. Thirty-five days later, the patient died from pneumonia with hectic fever.

At the necropsy, a spherical, solid, elastic, vascular glioma, about 2 centimètres in diameter, was found occupying the dorsal aspect of the right half of the pons Varolii, pressing out the raphe towards the left, and freely protruding into the fourth ventricle. It involved only the tegumentum of the pons, leaving intact the pyramidal tracts and most of the deep transverse fibres. The tumour was surrounded by chronic inflammatory changes, which spread over the floor of the fourth ventricle, and especially involved the nuclei of the right seventh and sixth nerves, and to a slighter degree those of the right eighth and of the left seventh and sixth nerves.

Discussing the symptoms in connection with the anatomical changes found, the authors especially dwell on a phenomenon which has occasionally attracted the attention of observers, but still lacks any satisfactory explanation. It is the combination of paralysis of the right rectus externus (that is, of the right abducent nerve) with paresis of the left rectus internus (supplied by the left oculo-motor nerve). In the case above described, the former was caused by destruction of the right abducens nucleus, but the nucleus of the oculo-motor nerve was intact on each side. How then is the affection of the left eye to be explained? The best explanation seems to lie in admitting that there exists a commissural bundle connecting the abducens nucleus *directly* with the ramulus of the opposite oculo-motor nerve for the internal rectus; but then a lesion of the oculo-motor nucleus ought not to be accompanied by a paralysis of that muscle. On the whole, the authors come to the conclusion that the mechanism of the combination in question, as far as cases of one-sided lesion of the abducens nucleus are concerned, remains still obscure; this circumstance, however, does not diminish the importance of that combination for the local diagnosis of affections of the pons Varolii and fourth ventricle. V. IDELSON, M.D.

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* A Voltolini's electro-magnet, somewhat modified and rendered more handy (weight only 2½ lbs.), with tips to screw on, may be had of Brade, of Breslau, for 18*s*.

ARTICLE 5880.

BARTEL ON SIX CASES OF NON-PUERPERAL INJURY OF THE VAGINA.

IN the *Vratch*, Nos. 20 and 21, 1885, Dr. Ernest J. Bartel details six rare instances of non-puerperal traumatic lesions of the vagina, all of which have come under his observation in the Obukhovsky Town Hospital during the last eighteen months.

One of the patients, a bootmaker, aged 45, who had had ten pregnancies, and ceased to menstruate four years ago, was admitted in collapse, with uterine hæmorrhage and burning hypogastric pain, which symptoms had appeared about six hours before, in consequence of her drunken husband having introduced a stick into her vagina. There was found a transverse laceration, about 4 centimètres long, situated at the posterior and lateral roof of the vagina, and involving the whole thickness of the mucous membrane. Under treatment by plugging, wine, camphor, ice, and subsequently by carbolic injections, the patient recovered, and, ten days later, left the hospital with the rent nearly cicatrised.

A second patient, a cook, aged 47, who had been delivered ten times, and lost the catamenia about three years ago, was sent to the hospital as a case of 'uterine cancer;' the symptoms being hæmorrhage, abdominal pain, painful defecation and micturition, all of them of five days' duration. The examination detected a vertical rent in the left vaginal wall, 6½ centimètres long, beginning about 3 centimètres above the entrance, and ending at the level of the os uteri. A finger freely penetrated into the circumvaginal and circumuterine cellular tissue. The patient refused to give any explanation. Five days later, she died from acute septic parametritis with septicæmia.

A third patient, a cook, aged 28, was admitted as a case of 'enteric fever.' There was found, however, a lacerated wound, about 6 centimètres long, situated at the posterior vaginal roof, and involving the mucous membrane and muscular coat. No explanation was given by the woman, in spite of all questioning. Seven days later, she died from pyæmia. The *post mortem* examination detected, besides the wound, ecchymoses over the posterior lip of the vaginal portion of the womb, as well as purulent parametritis, ulcerative endocarditis, and gangrenous disintegration of the apex of the right lung.

A fourth patient, a peasant, aged 50, who had had six labours, and ceased to menstruate eight years ago, was sent in as a case of 'uterine cancer,' with profuse flooding, which had appeared on the night before in consequence of her having been violated by a stranger on the road between St. Petersburg and Tzarskoïe Selo. A lacerated triangular wound at the posterior vaginal roof, 7 centimètres long, was present. A finger easily passed into the circum-uterine cellular tissue. Under the local application of iodoform and sublimate injections, rapid cicatrisation followed.

In a fifth case a burgess's wife, aged 19, was brought (by police) in a deadly drunken state, with profuse vaginal hæmorrhage. According to her subsequent statement, she had freely drunk vodka (aqua vitæ) and promenaded with a male friend a couple of hours before her admission. When they had come to Mikhailovsky Square, the friend had helped her over the fencing, and himself followed, this being her last recollection. There were found a bruise above the clitoris, laceration of its frænulum, a widely gaping vertical wound, about 7 centimètres long and 3 centimètres deep in its deepest (upper) part, running along the right vaginal wall from the vulva to within a finger's breadth from the cervix; and, lastly, another superficial oblique rent, about half a centimètre long, situated at the right roof of the vagina. No sutures were used (in that case as in all others); the treatment consisted in powdering with iodoform, and sublimate injections. Recovery was slow, the patient suffering from fever for five weeks. She left on the sixtieth day.

The sixth case was that of a charwoman, aged 42, who had been brought in in a deadly drunken state, with acute anæmia from vaginal hæmorrhage of several hours' duration. The bleeding proceeded from a wound passing from the middle of the posterior vaginal wall to the corresponding roof, as well as to the cervix, and penetrating into the circumvaginal connective tissue. No reasonable account was obtained from the patient. Under iodoform treatment, the wound rapidly healed, the patient leaving about a month after her admission.

V. IDELSON, M.D.

ARTICLE 5881.

KÖNIG ON THE RELATIVE ADVANTAGES OF SUPRAPUBIC AND PERINEAL CYSTOTOMY.

AT the fifteenth Congress of the German Society of Surgery, Professor König, of Göttingen, endeavoured to establish the relative indications of perineal and suprapubic section in the removal of stone from the bladder (*Centralblatt für Chirurgie*, No. 24, 1886). It is held by Prof. König that the choice between two operations, each having the same end in view, should be guided by two factors; by the danger to life on the one hand, and by the facility of performance on the other. If the desired end can be attained by an operation which, though less dangerous to life, is more difficult to perform, this operation should be selected. With regard to the high and perineal operations for removal of stone, it is stated that, whilst the risks of bleeding in the two procedures are about equal, the latter is almost quite free from danger to life, whilst the former both from its anatomical conditions and from the risk of septic phlegmon of the anterior abdominal wall, is by no means a safe operation. As a proof of the safety of perineal section, Prof. König states that, of forty cases in which perineal section has been performed for urethral stricture in the Göttengen clinic, since 1876, not one has proved fatal. Of ten other cases three were fatal, but death was the result, not of the operation, but of the disease for which it had been performed as a measure both of treatment and of diagnosis. In eight only of the forty-seven successful cases did the patient suffer from urinary fever, and in one from erysipelas. In twenty-six cases there was severe purulent catarrh of the bladder at the time of the operation, and in eight cases the urine was foul and much decomposed. Of thirty-eight cases of operation for stone collected from recent records of the Göttingen Hospital, in twenty-two perineal lithotomy was performed with seven deaths, in five suprapubic lithotomy with four deaths, and in eleven lithotrity without a death. In two of the seven fatal cases of perineal lithotomy, death was caused by the anæsthetic, directly in one instance, indirectly from pneumonia, after severe vomiting, in the other. In the remaining five fatal cases, the patients seem to have been in very unfavourable conditions for any kind of operative interference. The stone, in each of these cases, was large and had caused much mischief in the bladder; the operation for its removal was attended with much difficulty, and the patient succumbed after fever and coma, the body presenting after death the pathological indications of vesical catarrh, long-standing pyelo-nephritis, pneumonia, and fatty heart. The statistics of other German surgeons prove that perineal lithotomy is, in most cases, attended with good results. Werewkin has performed lateral lithotomy on boys in seventy-two successive cases without a death. Tables of cases have been collected by Heusinger, which show a mortality of from 6 to 9 per cent. from lateral lithotomy. Werewkin has reported sixteen cases, and Miner ten cases, of median lithotomy without a fatal result.

Suprapubic lithotomy is a less difficult operation, Professor König states, but is attended with certain serious risks, especially the results of septic inflammation of the anterior abdominal wall, which do not occur in perineal lithotomy. The cases collected from the Göttingen surgical practice, although four out of five were fatal, do not really prove much against the operation. In one case the patient was much affected by iodoform, and the other three were not good cases for lithotomy, as in each the patient was advanced in years, the stone very large, and the urine decomposed. Larger collections of cases, however, show that the high operation has not been very successful. In 94 cases collected by Garzia, the mortality was 24·4 per cent., and in 120 cases collected by Tuffier, 27 per cent. In many of these cases, probably, the operation was performed before the era of antiseptic surgery, and without any attempt to elevate the bladder by distending the rectum. With regard to the influence of antiseptic methods on the results of high lithotomy, Professor König doubts whether it will ever be possible to remove the danger of the contact with the wound of decomposed urine. The application of sutures to the wound in the bladder is often attended with much difficulty, and is not always reliable, as the sutures may give way.

Perineal cystotomy, Professor König concludes is the less dangerous, but the more difficult operation. It is suitable in ordinary cases of foreign body in the bladder, and for the removal of stones of small and medium size. The high operation, with regard to ease of performance, is better suited for the removal of large stones; and the risks attending this operation, the principal of which is phlegmon of the anterior abdominal wall, are much less than those likely to result from injury to the wound and bladder during perineal cystotomy performed under similar conditions.

W. JOHNSON SMITH.

ARTICLE 5882.

MERMANN AND DOHRN ON EPISPADIAS AND ECTOPIA VESICÆ IN THE FEMALE.

DR. MERMANN, of Mannheim (*Archiv für Gynäk.*, Band xxvi, Heft 1), was recently consulted about a well-developed child six weeks old. The outer organs formed two symmetrical prominences, which consisted of the labia minora, the divided clitoris, and the prepuce. Between the prominences was an oval orifice, which led to a canal running towards the sacrum and rectum. This canal was blind, but the uterus could be felt through the rectum. The existence of ovaries could not be proved. The hymen, which lay at the orifice of the canal, was perfect, and consisted of a circular fold of mucous membrane. There was a trifling, though distinct, separation of the pubic bones at the symphysis, filled in by firm fibrous bands. The perinæum was perfect, indeed rather long, and complete ectopia vesicæ existed. The lower part of the exposed bladder lay between the widely separated external organs. Dr. Mermann believed that one of two methods of operation might be adopted. Either the ureters might be drawn downwards and fixed so as to form a cloaca; or a nearer imitation of the natural relations of the genito-urinary tract might be established, by first forming a urethra opening into the vagina, and then closing in the bladder anteriorly, on Thiersch's principle. He decided to operate after the latter method, when the child reached the age of from twelve months to two years.

Dr. R. Dohrn's patient (*Zeitschr. für Geburts. und Gynäk.*, Band xii, Heft 1, 1886) was a housemaid, aged 18, troubled with incontinence of urine. No family history of any congenital deformity could be obtained. Seven of her mother's children were stillborn, and one was born with paralysis of the left arm and right leg. The patient had menstruated regularly since her sixteenth year. She had been subject to incontinence of urine since infancy; when lying down, she had no power over her bladder; when standing, she could hold her urine for little over an hour. The pelvis was well formed, the symphysis pubis normal. The external organs were ill-developed; the mons Veneris could not be said to exist, as it was represented by a concave depression of the soft parts. The perinæum was deep. The labia majora were small; the labia minora prominent, especially anteriorly, where they were wide apart; and each was continuous with the prepuce of the half clitoris, that structure being completely divided into two halves, symmetrical, and each of the size of a lentil. At the site of the anterior commissure of the vulva was the orifice of the urethra, a wide, funnel-shaped gaping aperture, which readily admitted the little finger. Longitudinal folds ran along the anterior part of the orifice into the urethral canal. The urethra measured three centimètres; its sphincter was weak. The hymen and vagina were of the virgin type, the uterus small, and slightly retroverted. Dr. Dohrn, by a plastic operation, drew up the halves of the clitoris and its prepuce over the urethral orifice, and fixed the transplanted structures in that position, sewing the halves of the clitoris together. The urethra was thus restored to its natural position. A few months after the operation it was less patulous, and the patient could hold her urine much better than before. Dr. Dohrn agrees with Thiersch (*Archiv für Heilkund.*, Jahrg. x., Heft 1) that epispadias in the female arises from a too early development of an unusually long perinæum, which pushes forward the orifice of the sinus urogenitalis, and with it the later formed urethral orifice, so that the elements of the clitoris are kept apart. He rejects the theory of Schröder and others, that epispadias and ectopia are necessarily due to anomalies or accidents in the development of the allantois. [For an exhaustive summary of theories on this subject, see Champneys, 'A Case of Extroversion of the Bladder in a Female Child,' *St. Bartholomew's Hospital Reports*, vol. xiii., 1877. In the *Jour. of Anat. and Physiol.*, vol. xv., the reporter describes and figures a 'Dissection of the Genito-urinary Organs in a Case of Fissure of the Abdominal Walls,' where the degree of ectopia vesicæ and malformation of the female organs was extreme and unsymmetrical. The relation of the elements of the internal organs to the bladder was very instructive.] ALBAN DORAN.

ARTICLE 5883.

LERMUSEAU ON PSEUDO-COXALGIA.

DR. LERMUSEAU (Brussels) communicates the following instructive case in *Le Moniteur du Practicien*, May 15, 1886.

A little girl, aged 5, had been complaining for a considerable time of violent pain in the upper portion of the right thigh. Without presenting positive signs of scrofula or rickets, the child was rather small and undeveloped for her age; the abdomen was enlarged, and there was slight swelling of the epiphyses of the long bones and of the chondrocostal articulations. No history of hereditary taint could be gathered from the parents, both enjoying perfect health.

External examination showed neither tumefaction nor abnormal colour of the integument; but the fold of the right buttock was obliterated, and the limb appeared shortened. Pressure on the hip-joint caused agonising pain, which remained localised behind the great trochanter, and was increased by passive flexion and rotation. There were a slight posterior excavation of the spine, and conspicuous adduction of the affected leg; the patient walked with great difficulty on the ball of the foot, held in the position of a club-foot. There had never been pain or tenderness of the knee-joint.

When the diagnosis of coxalgia was on the point of being made, the mother stated that the child had likewise been complaining of pain in the right shoulder. This led to the suspicion that there might be two white swellings in the same individual, although such was a very rare and exceptional occurrence. On examination of the scapulo-humeral articulation, its movements were evidently very painful, especially rotation. Moreover, on deep palpation a movable, elongated, sharply pointed body was discovered at the level of the posterior portion of the deltoid muscle, and a sewing-needle was extracted.

Reasoning by analogy, another careful examination of the coxo-femoral region was at once resorted to, and another sewing-needle was removed, which had been deeply impacted in the muscular portion of the great gluteus.

Thus an erroneous diagnosis was fortunately avoided, and an immediate cure effected. The needles were forwarded to the chemical and microscopical laboratory, under the direction of M. Aug. Zune, in order to investigate the chemical alterations which they might have undergone during their long retention in the muscular tissue.

There being many causes and forms of pseudo-coxalgia, this case, instructive from the clinical stand-point, conveys at the same time a lesson of utmost precaution in diagnosis, and a warning not to pronounce without weighty evidence a verdict which would cruelly condemn a poor little sufferer to a long period of useless—yea, highly injurious—immobilisation.

Without dwelling on the rheumatic and hysterical forms of coxalgia, there are undoubtedly many instances of cold abscesses forming around and in the close neighbourhood of the hip-joint, which so perfectly simulate coxalgia as to render the diagnosis extremely difficult, if not almost impossible.

The same may happen with deep-seated acute abscesses, high up in the thigh and near the hip-joint. The celebrated case of the late Prince Imperial, son of the Emperor Napoleon III., who, in consequence of an attack of measles, had been affected with a serious disease of the thigh, will be still remembered. All the medical attendants had agreed in the diagnosis of coxalgia; but Nélaton, whose opinion was finally appealed to in consultation, considering the irregular character of the fever, and discovering, moreover, fluctuation near the hip-joint, determined the diagnosis of a deep-seated abscess at the origin of the thigh. The first puncture was made in the inguinal region, but, the abscess emptying insufficiently, a second puncture, directly through the pelvo-trochanteric region, became necessary. After the evacuation of the abscess, which was situated between the coxo-femoral capsule and the obturator muscles, rapid recovery took place, but not completely, the limb remaining slightly atrophied, which led to fatal consequences. The unfortunate Prince, when assailed and surprised by the Zulus, was prevented by his lameness from vaulting quickly enough into the saddle, and thus ensuring his escape.

FERD. ADALB. JUNKER, M.D.

ARTICLE 5884.

BEEVOR AND HORSLEY ON THE TREATMENT OF TUMOURS OF THE BRAIN.

IN the *Brit. Med. Jour.*, July 1886, p. 32, an article draws attention to a paper read before the Royal Society on June 10 by Dr. C. E. Beevor and Professor Victor Horsley, F.R.S., in which the authors publish the result of an experimental investigati of the functions of that area of the cortex of the brain, which Dr. Ferrier showed to be the centre for the movements of the upper limb. These observers found that, when the upper part of this area was stimulated, the movements which followed commenced in the shoulder; that when the lowest part was stimulated, the movements commenced in the thumb; and that when the intermediate part was stimulated, the movements commenced in the wrist. These phenomena are in agreement with the observations made by Dr. Hughlings Jackson in the peculiar type of epilepsy to which his name is often applied.

Acting on these data, Mr. Horsley has lately performed a very interesting operation upon a patient under the care of Dr. Hughlings Jackson. The patient was a man who had suffered from Jacksonian epilepsy for two years, and the diagnosis was made of tumour in that area of the brain which has been shown to be the centre for movements of the thumb. Mr. Horsley, having previously tried the experiment with success in monkeys, was able by measurement to apply his trephine over the cortical area which contained the thumb-centre. On removing the piece of bone, a tumour was detected immediately beneath. The hole was then enlarged, and the tumour, together with the rest of the thumb-centre, was freely excised. The wound was then treated precisely as those previously treated in the case of monkeys, and healed in four or five days. At the end of a week the patient was quite well, free from fits, with returning power in the paralysed limb.

Three weeks previously to this operation, Mr. Horsley excised a scar in the brain of a patient suffering from traumatic epilepsy of a very severe type. This patient recovered completely, and has had no return of fits. RICHARD NEALE, M.D.

SURGERY.

RECENT PAPERS.

5885. ROSER.—Urinary Infiltration. (*Centralbl. für Chir.*, No. 24, 1886.)

5886. CREDÉ. — Gastrotomy for the Removal of Foreign Bodies. (*Archiv für Klin. Chir.*, Band xxxii., Heft 3.)

5887. PACKARD.—Laparotomy in Cases of Gunshot-Wound of the Abdomen. (*Philadelphia Med. News*, July 3.)

5888. VOSTRIKOFF, EVGENY M.—A Case of Severe Gunshot Injury of the Left Hand; Wrist-joint Opened; Conservative Treatment; Good Results. (*Proceedings of the Stavropol Medical Society*, No. 8, 1885, pp. 2–7.)

5889. IVANOFF, S. D.—Two Cases of Reunion of Cut-off Fingers. (*Russkaia Meditzina*, No. 7, 1885, pp. 139–40.)

5890. IVANOFF.—A Case of Sudden Death from a Blow on the Testicles. (*Meditzinsko Spisanië*, June 20, 1886, pp. 440–3.)

5891. JACKSON.—Recurrence of Scirrhus of the Breast. (*Brit. Med. Jour.*, May, p. 876.)

5892. HILL.—Hydrocele treated by Injection of Carbolic Acid. (*Brit. Med. Jour.*, June, p. 1164.)

5893. BROWNE.—Injection of Carbolic Acid for the Radical Cure of Hydrocele. (*Brit. Med. Jour.*, June, 1214.)

5894. PARKER.—A Case of Suprapubic Cystotomy in a Child. (*Lancet*, July, p. 9.)

5895. BENNETT.—Fracture of the Metacarpal Bone of the Thumb. (*Brit. Med. Jour.*, July, p. 12.)

5896. LOUMEAU.—A Remarkable Accident while Tapping a Hydrocele. (*Lancet*, July, p. 23.)

5897. KARTULIS.—The Operative Treatment of Abscesses of the Liver. (*Deutsche Med. Wochensch.*, No. 26, 1886.)

5898. DEMONS.—On Resection of Lung and Removal of a Kidney.

ART. 5885. *Roser on Urinary Infiltration.*—In the *Centralbl. für Chirurgie*, No. 24, 1886, Professor Roser, of Marburg, states that very different morbid processes are described under the name of urinary infiltration, and that it is necessary to make clinical and also anatomical and etiological distinctions between the following conditions. 1. True urinary infiltration occurs only when urine is forced into the connective tissue by internal pressure, especially when its free discharge is interfered with or prevented. 2. This infiltration is more injurious and dangerous in cases in which the urine is decomposed and has become, or is about to become, ammoniacal. 3. The mixture of putrescent urine with putrescent pus and blood gives rise to certain products of decomposition, which, both by their local action and by the results of their absorption, add considerably to the danger of urinary infiltration. 4. When decomposed urine simply flows over exposed tissues the ammoniacal fluid will, as a rule, act slightly and on the most superficial tissues. This temporary contact as the urine flows by may, however, do mischief when the secretion is very ammoniacal, when it acts as a caustic and causes necrosis, or when it leaves incrustations. Even when it is but slightly ammoniacal, the occasional or temporary contact of urine may prevent healing of a wound by cicatricial contraction. 5. Those wounds which are washed by putrescent urine—and even a wound in contact with urine that is not decomposed—are of specially dangerous import, as they are liable to be associated with the introduction, either passive or active, of bacteria into the connective tissue and vessels. The active introduction of bacteria into the tissues has to be distinguished from the passive infiltration of urine, whether alone or mixed with pus. The distinction between infiltration of urine and invasion of urine has not, Professor Roser holds, been sufficiently insisted on by many writers; and what is described in their works as urinary infiltration, ought rather to be classed as diffuse or pyæmic phlegmon.

5886. *Credé on Gastrotomy for the Removal of Foreign Bodies.*—In the *Archiv für Klin. Chir.*, Band xxxii., Heft 3, Dr. Credé, of Dresden, reports a case in which he successfully extracted from the stomach of a man, aged 24, a large denture consisting of eight false teeth. This foreign body was removed fifteen days after it had been swallowed, and the patient made a good recovery. Appended to this paper are three tables of cases that have been collected from different sources by the author's assistant, Dr. Koch. The first of these tables contains references to ten cases of gastrotomy for removal of foreign bodies, in which the stomach at the time of the operation was not adherent to the anterior wall of the abdomen. In eight of these cases, the operation resulted in recovery; a remarkable success, it is pointed out, as four of the cases were treated before the introduction of the antiseptic method into surgical practice. Such result, Credé holds, should induce surgeons to have less hesitation in removing from the stomach, in suitable cases, a foreign body the size and form of which render its spontaneous discharge impossible. In the second table are arranged nine cases, in which the stomach was adherent to the abdominal wall. Of these one only was fatal. The third table contains seven cases, the details of which were not given fully and clearly in the original published reports. Of these, so far as can be made out, one was fatal. Of twenty-six cases in all, in twenty-two the operation proved successful, and in four only was it attended with a fatal result.

5887. *Packard on Laparotomy in Cases of Gun-shot-Wound of the Abdomen.*—In a clinical lecture delivered at the Pennsylvania Hospital, and reported in the *Philadelphia Med. News*, July 3, 1886, Dr. John H. Packard, after a full report of one case and brief reference to two others, offers some general remarks as to the operation of opening the abdomen in cases of gunshot-wounds of this region. 'It must be borne in mind,' Dr. Packard states, 'that this procedure is itself of great gravity, and the patient's general condition must be fairly good to enable him to withstand the additional shock involved. The surgeon's prime object must be to do all that is possible to save life; but he must not overlook the fact that his course may be severely criticised, especially in cases which give rise to medico-legal inquiry. It is always advisable for the surgeon, in such cases, to have his own opinion fortified by the support of one or more consultants, especially if about to depart from standard procedure, or from the rules laid down by standard authorities. There must always be reason to suppose that some definite object can be gained by opening the abdomen; such as the closure of wounds of the intestine, or the arrest of hæmorrhage, or the cleansing of the peritoneum. It must be a question to be decided in each case, whether the existing wound should be enlarged, or a new incision made in the linea alba.' Generally, Dr. Packard believes the latter to be best, 'as giving the truest and safest access to all wounded parts, and enabling the surgeon to assure himself that what is called by some the peritoneal toilette is thoroughly attended to. The median incision involves scarcely any bleeding, and what there is can be readily checked. If the incision be made in any other region, some vessels of importance are almost sure to be met with, and should be carefully secured as they spring.' Antiseptic precautions, Dr. Packard states, are eminently proper in these cases, although not indispensable. What is done, he holds, must be done thoroughly. It would be absolutely useless to sew up all but one of the wounds of the intestine, or to tie all but one of the divided vessels, or to cleanse the peritoneum everywhere except in one recess. W. Johnson Smith.

5888. *Vostrikoff on a Case of Severe Gunshot Injury of the Wrist-joint and Fingers; Treated after the Conservative Method.*—Dr. Evgeny M. Vostrikoff, of Stavropol, details (*Proceedings of the Stavropol Medical Society*, No. 8, 1885, p. 2) the case of a peasant, aged 28, who was admitted with a wound of the left hand, which had been caused seven days before by his gun bursting at its breech part while he was shooting at a wolf. On examination, the thumb, and the ring and little fingers, were found to be torn from the adjoining metacarpal bones, and in a sloughy condition. Their metacarpo-carpal joints were laid bare, their soft parts crushed and burnt, and altogether transformed into 'something like gruel.' The wounds were dirty and offensive; the integuments of the wrist and lower part of the forearm were tense, red, and hot; and the whole extremity up to the middle third of the arm was swollen. The man suffered from fever (102°·4 F.), rigors, giddiness, pain in the injured limb, and general weakness. The author resolved to preserve for the patient the use of his hand (that is, the use of his intact middle finger and forefinger), and accordingly removed only the dead fingers and thumb by cutting through the wrist-joint. The anterior articular surface of the trapezium, as well as the surgical wound in general, remained bare, since there was no sound skin left to cover the parts. The wounds were washed out with a 0·2 per cent. solution of corrosive sublimate, and dressed with gauze soaked in a 0·1 per cent. solution of the drug. About a week later, an abscess was detected on the lower third of the forearm; it was opened and drained. About three months later, the patient was shown to the Stavropol Medical Society with all his wounds healed; the movements in the wrist-joint and preserved fingers were yet limited, but at all events retained to give a more or less useful limb. Dr. Vostrikoff mentions three other cases of severe injuries, where he has successfully followed conservative principles instead of performing amputation. In one of the patients, there was a perforating bullet-wound of the shoulder-joint. He recovered with but trifling limitation of movements. Another had a compound comminuted fracture of the leg; about fifteen splinters were removed through the wound; complete union took place in three months, the limb being shortened only about half an inch. In a third case, the toes and metatarsus were crushed by a wheel of a railway carriage; the injured parts fell away spontaneously, leaving a good stump, in two and half months. Dr. Vostrikoff's case induced Dr. P. S. Kornīëvsky to relate a case of his own (*l. c.*, No. 9, 1885, pp. 8–10). A boy, aged 8, received a clean cut into his right thumb with a large kitchen-knife, the wound occupying the dorsal half of the thumb and so penetrating into the interphalangeal articulation as to leave it completely open. Under a dressing consisting of English adhesive plaster and iodoform gauze, the parts united by the first intention, the thumb preserving all its movements to their normal extent.

5889. *Ivanoff on Two Cases of Reunion of Cut-off Fingers.*—In the *Russkaia Meditzina*, No. 7, 1885, p. 139, Dr. S. D. Ivanoff, of Brïansk, furnishes details of two interesting cases occurring in healthy soldiers, one of whom had accidentally cut away, by a stroke of an axe, the second phalanx of his right forefinger, while another had severed in the same way the second phalanx of his left thumb. In the former, the part hewn off was still united to the hand by means of a bridge of skin about 2 centimètres in breadth, the axe having passed through the first interphalangeal articulation, and chipped off a part of the base of the second phalanx. In the other case, the chopped off part was brought away in a glove; the weapon cut transversely a little above the interphalangeal articulation. In both of the cases the cut was clean, without any crushing of the parts. The first man was seen two hours after the accident; the second, three hours. The wounds were washed with a corrosive sublimate or carbolic solution, and the severed parts were accurately fixed by sutures in their normal situation, after which an iodoform dressing was applied. In both perfect union by the first intention ensued, with return of sensibility and (limited) mobility. [In the *Vratch*, No. 39, 1881, Dr. P. J. Dïakonoff, of Orel, reports the case of a peasant who pretty nearly cut his right hand in two, the axe passing in an oblique direction through the metacarpal bones of the middle, ring, and little fingers. The wound was sewn on the next day after the accident. Under a Listerian dressing, the parts united in eight days, partly through the first, but mostly through the second intention. The middle and ring fingers remained immobile and insensible; the forefinger and little finger preserved limited movements. In the *Vratch*, No. 45, 1884, p. 764, Dr. V. K. Kampf, of Oster, publishes the case of a badly nourished peasant, aged 21, in whom the right thumb was hacked off by an axe through the phalango-metacarpal articulation, and remained connected only by a palmar bridge consisting of skin and muscles, and measuring 2 centimètres in breadth. On the second day, the author performed resection of the head of the metacarpal bone (a portion of which was absent), refreshed the wound, introduced a drainage-tube, sewed the parts with deep sutures, dressed with iodoform, and applied splints. Complete union took place. Abduction, adduction, and opposition remained quite free; only flexion of the phalanges and sensibility of the thumb above the scar were lost. A case of reunion of a hewn-off finger under iodoform was reported also by Dr. Evsëenko in the *Tchernigov Zemsky Sbornik*, No. 1, 1884, p. 101. In the *New York Medical Record*, March 28, 1885, an interesting case by Dr. Perkins may be found.—*Rep.*]

5890. *Ivanoff on a Case of Sudden Death from a Blow on the Testicles.*—At a recent meeting of the Varna Medical Society, Dr. Ivanoff recorded the following rare case (Bulgarian *Meditzinsko Spisanïe*, June 20, 1886, p. 440). A man, aged between 45 and 50, fought with a woman on the street. During the fight the woman dealt a violent blow on his genital organs. The man shouted, 'I am dying!' staggered, and fell insensible. The author, who was almost immediately fetched to the spot by a policeman, found the patient lying on his back, motionless, pulseless, and breathless; his face, neck, and scrotum being very red. Not a trace of ecchymosis or any other signs of injury was detected anywhere in the man. Since there seemed to be heard a slight cardiac murmur, and a slight tremor to be felt in the carotides, Dr. Ivanoff without any delay resorted to artificial respiration. But neither forty-five minutes' manipulations nor electrisation could establish the man's breathing. The congested parts soon became livid, and every sign of life extinct. At the *post mortem* examination, there were found only intense congestion of the meninges and brain, congestion of the lungs with numerous punctiform ecchymoses, accumulation of dark red fluid blood in the cardiac cavities, congestion of the stomach, liver, kidneys, and testicles. Everything else was quite normal. Basing his conclusion on all the facts as sketched above, the author stated (forensically) that death followed from syncope, which had been brought about by sudden violent pain caused by a blow on the testicles. V. IDELSON, M.D.

5891. *Jackson on Recurrence of Scirrhus of the Breast.*—In the *Brit. Med. Jour.*, May 1886, p. 876, Mr. V. Jackson writes that he does not agree with Dr. Snow that a case of scirrhus of the breast is permanently cured if no recurrence take place within two years. Mr. Jackson relates a case in which a patient had the right breast removed for scirrhus, and four years afterwards a nodule of scirrhus appeared at one end of the cicatrix of the old wound.

5892. *Hill on Hydrocele treated by Injection of Carbolic Acid.*—In the *Brit. Med. Jour.*, June 1886, p. 1164, Mr. Berkeley Hill records two cases of hydrocele successfully treated by injection with carbolic acid. The first case was that of a boy, aged 9, who suffered from a hydrocele of the cord. Mr. Hill drew off four drachms of fluid by means of a hypodermic syringe, and then injected a syringeful of carbolic acid, rendered liquid by solution in glycerine (1 in 10). The patient was completely cured. The second patient was a man, aged 44, who suffered from a large hydrocele of the left tunica vaginalis. This was tapped by Mr. Hill, and fourteen ounces of fluid were drawn off. Thirty minims of carbolic acid in glycerine were then injected. Four days afterwards the man left the hospital completely cured. [In the *Medical Digest*, sect. 1227 : 1 is noted the original paper by Dr. Wagner in 1878, proving the value of this mode of treatment.—*Rep.*]

5893. *Browne on Injection of Carbolic Acid for Radical Cure of Hydrocele.*—In the *Brit. Med. Jour.*, June 1886, p. 1214, Mr. Buckstone Browne records a case of hydrocele cured by injecting carbolic acid. The patient was aged 23, and suffered from a hydrocele which had followed an attack of orchitis. On April 13 the hydrocele was tapped, and six ounces of fluid drawn off; then two drachms of tincture of iodine were injected. In four days the hydrocele had to be tapped again; and three days afterwards it was tapped a third time, and a drachm of pure carbolic acid, deliquesced with 5 per cent. of glycerine, was injected with an ordinary hypodermic syringe. Next day the part was swollen, but not very tender. The patient felt no pain at the time of the operation, nor at any subsequent period. In a week, he seemed quite well, and no more fluid collected in the tunica vaginalis.

5894. *Parker on a Case of Suprapubic Cystotomy in a Child.*—In the *Lancet*, July 1886, p. 9, Mr. R. W. Parker records a case in which he removed a calculus, in a child, by suprapubic cystotomy, and secured primary union. The patient was small and rickety, just under 3 years of age. The rectum being inflated with an India-rubber bag, and the bladder distended with a warm solution of boric acid, a median incision quickly exposed the bladder. A curved needle, armed with silk, was passed through its coats on each side of the median line, which was then used to raise and steady the bladder. Next an opening was made with a small scalpel, and the stone quickly removed with a pair of lithotomy-forceps. After washing out the bladder, the incision was carefully closed by several sutures of chromic catgut, after which the silk threads were withdrawn. The bladder now gradually contracted, so that the edges of the rectus muscle could be brought together, and then the edges of the incision through the abdominal wall were carefully united. A sprinkling of iodoform was dusted over the wound, and a pad of lint and absorbent wool were fastened on with a flannel bandage. The patient was kept quiet by means of opium, and on the second day the dressing was changed. On the fourth day the stitches were removed, and in sixteen days the boy was discharged perfectly well, the wound having healed by first intention.

5895. *Bennett on Fracture of the Metacarpal Bone of the Thumb.*—In the *Brit. Med. Jour.*, July 1886, p. 12, Dr. Edward Bennett supplements some remarks made in the *Journal*, Aug. 1, 1885, on the subject of fracture of the metacarpal bone of the thumb. The author then stated that he had only met with this injury on the right side, but now he supplies a drawing of a case in which the accident occurred on the left thumb. The treatment of these cases is careful reduction by extension, and the application of an accurately fitting compress over the extremity of the displaced bone, maintained in place by a light splint fixed to the lower end of the radius and extending to the extremity of the thumb. This apparatus must be retained for at least four weeks.

5896. *Loumeau on a Remarkable Accident while Tapping a Hydrocele.*—In the *Lancet*, July 1886, p. 23, a remarkable accident is recorded. M. Loumeau tapped a hydrocele in a healthy man, aged 44, and drew off about 125 grammes of clear fluid. The operator then injected gently 60 grammes of a mixture of tincture of iodine with twice its volume of water. All at once the patient complained of severe pain in the spermatic cord and loins, with cramp in the right forearm. The ulnar border of the right hand then became flexed, the ring and small fingers being completely bent, while the index and middle fingers became flexed at their metacarpo-phalangeal articulations. The thumb also was flexed and brought near the fingers. Exactly the same position was shortly afterwards assumed by the left hand. There were no convulsions nor syncope. After a few minutes, the ulnar muscles began to relax, and the index and middle fingers became flexed completely on the hand, which itself became strongly flexed on the forearm. All the muscles on the front of the forearm became hard and contracted. The palmar fascia was strongly retracted, and the palmaris brevis quite tense. On both sides the ulnar affection had given place to contraction of the muscles supplied by the median nerve. The tongue hung loosely in the mouth, and the patient was unable to articulate a sound. The forearms were shampooed, and nearly an hour afterwards the muscles relaxed. The patient recovered completely, leaving the hospital cured, in a few days. The author had no idea of the cause of this attack, but attributed it to reflex irritation of the nerves of the serous membrane of the testicle.

Richard Neale, M.D.

5897. *Kartulis on the Operative Treatment of Abscesses of the Liver.*—According to the handbooks of surgery and other well-known works, the results of operative treatment of abscesses of the liver would appear to be extremely unfavourable. Before the discovery of antiseptics it was impossible that larger abscesses in the right hepatic lobe, where they are most common, could be successfully treated by operation. New hopes dawned when Lister, in December 1878, successfully opened such an abscess under antiseptic precautions (Taylor's *Tropical Diseases*), and the operation was then frequently performed. Yet in England the method has again recently been condemned 'on account of bad results,' and the operation by the trocar reinstated. If the results have been bad, Dr. Kartulis, of Alexandria, ascribes the fact to this, that the pus cannot be easily discharged, even with drainage, on account of the contraction of the ribs; and thus stagnates in the cavity of the abscess, easily causing pyæmia, hectic fever, &c. He therefore determined, in a case that seemed to demand it, on resection of a rib. The abscess was in the right lobe; it had been twice punctured, and later on opened with the knife through the seventh intercostal space, but yet without healing. To save the patient, Dr. Kartulis found it necessary to saw away about 3 centimètres of the seventh rib. Hereupon a great quantity of foul pus was discharged, and healing proceeded normally. During the first days the bandages were often changed, until the secretion of pus gradually ceased. In less than three weeks the abscess was completely healed; and the general health of the patient was very good. In another severe case, Dr. Kartulis resected about 5 centimètres of the ninth rib. The thin wall of the abscess was seen to be very tense. Slight pressure caused it to burst, discharging a stream of pus. The first finger could reach the top of the abscess, but not the bottom of it. Strict antiseptic precautions were taken. Five hours after the operation, the patient was lively and free from fever. In nine days the abscess-cavity was filled up, and two days afterwards the bandaging was discontinued. The patient served afterwards in the same year in the Soudan campaign for half a year, remaining perfectly well. The disadvantage of resection in hepatic abscess, as compared with that in thoracic empyema, is that in the former the diaphragm has frequently to be cut through; and if there be no adhesions, there is the danger of the pus finding its way into the thoracic cavity. In such cases, Dr. Kartulis recommends that two or more ribs should be resected, and the pleural cavity drained. But he thinks there will generally be adhesions, owing to the enlargement of the liver, and that there will be no complications in connection with the operation. Abscesses of the left lobe, which are less frequent and generally smaller, may sometimes heal after one puncture. If these abscesses be large and deep, without adhesions, the cannula should be allowed to remain with antiseptic precautions, or several punctures be made, the abscess being ultimately opened with the knife. It is different if the abscess be in the right lobe. In this case the trocar must first determine the position of the abscess, and then resection be done with a view to opening it at once. It is not well to wait for adhesions, since the delay may prove fatal to the patient. John Elliott.

5898. *Demons on Resection of Lung and Removal of a Kidney.*—M. Demons read an interesting note at a recent meeting of the Paris Surgical Society. An adult was stabbed between the ninth and tenth rib. A portion of the lung-tissue protruded, and formed a mass about as large as an apple; the same day the patient passed blood with his urine, indicating a wound of the kidney. M. Demons resected, by means of the écraseur, the hernial portion of lung, and applied the thermo-cautery to the surface. Some days after the operation, there was purulent effusion on the left side of the thorax; chemical analysis of the fluid proved it to be principally urine. It was decided to remove the kidney. Nephrectomy was performed in the lumbar region; the twelfth rib made the operation more difficult; but M. Demons, remembering M. le Dentu's opinions, carefully avoided cutting it. The pedicle of the kidney was divided, and carefully ligated. The wound was sutured with metallic threads; reunion took place by first intention, but two months subsequently a mass of cellular tissue sloughed away and opened the cicatrix. It is now six months since the operation was performed, and recovery appears to be perfectly established. W. Vignal.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

5899. Perli.—Researches on the possibility of causing the Absorption of Medicines through the Skin by means of Lanolin. (*Giornale Internazionale delle Scienze Mediche*, Feb. 5, 1886.)

5900. Macgregor.—The Value of Boric Acid in Various Conditions of the Mouth. (*Brit. Med. Jour.*, July, p. 63.)

5901. Paget.—Cucaine in Hay-Fever. (*Brit. Med. Jour.*, July, p. 181.)

5902. Moorhead.—Cure of Hay-Fever. (*Brit. Med. Jour.*, July, p. 181.)

5903. Hutchison.—Pure Terebene in Winter-Cough. (*Brit. Med. Jour.*, July, p. 15.)

5904. Züboff, A. A.—On Permanganate of Potassa in Combustions and Congelations. (*Meditz. Obozrenïĕ*, No. 8, 1886, pp. 758-59.)

5905. Garthier, F. K.—On the Purity of Commercial Preparations of Cucaine. (*Meditz. Obozrenïĕ*, No. 8, 1886, pp. 763-65.)

5906. Afanasieff, S.—On the Physiological Action of Lobelia Inflata on the Heart and Circulation. (*Ejened. Klinitch. Gazeta*, No. 18, 1886, pp. 365-69.)

5907. Tcheltzoff, M. M.—On the Action of Fluid Extract of Cascara Sagrada on the Secretion of Digestive Juices. (*Ejened. Klinitch. Gazeta*, 1886, No. 21, pp. 418-23; and No. 22, pp. 444-51.)

5908. Olsztynski, Wladislaw.—On the Green Colour of Extract of Cannabis Indica. (*Wiadomosci Farmaceutyczne*, No. 5, 1886, pp. 104-5.)

5909. Fijalkowski, F.—On Modes of Obtaining Fat from Sheep's Wool. (*Wiadomosci Farmaceutyczne*, No. 13, 1886, pp. 289-90.)

5910. Valitzkaia, Maria K.—Idiosyncrasy or Poisoning? (*Russkaia Meditz.*, No. 14, 1886, pp. 243-44.)

5911. Grigorovitch, F. J.—On the Influence of Prolonged Application of Cold to the Cardiac Region on the Action of the Heart in Febrile Disease. (*Vratch*, No. 24, 1886, pp. 441-43.)

5912. Bürtzeff.—On the Antipyretic Action of Antipyrin. (*Meditz. Pribavl. k'Morskomii Sbornikii*, March 1886, p. 231.)

5913. Krysinski, S.—A Contribution to the Question of Argyria. (*Vratch*, No. 26, 1886, pp. 471-2).

5914. Koriander.—On Naphthalin in Helminthiasis. (*Vratch*, No. 26, 1886, p. 482.)

5915. Walter, P. A.—On the Influence of Inhalations of Nitrite of Amyl on the Acidity and Constituents of the Urine. (*Vratch*, No. 12, pp. 214-17.)

5916. Dumas.—On the Action of Aconitine in Neuralgia. (*Le Progrès Médical*, and *Der Fortschritt*, March 20, 1886.)

5917. Luton.—On the Therapeutic use of Acetate of Copper.

5918. Guérin.—On a New Vehicle for the Administration of Drugs. (*Bulletin Général de Thérapeutique*, July 15, 1886.)

Art. 5899. *Perli on Lanolin.*—Dr. Bernardino Perli publishes a short account of some experiments, undertaken with the view of testing the alleged power of lanolin to cause the absorption of drugs through the skin. At the outset, he mentions some of the conclusions reached by Dieterich touching the miscibility of the various fats with water, which may be quoted here. Of vaseline 100 parts absorb 4 parts of water; 100 parts of lard absorb 15 parts of water; 100 parts of mixture of oil of almonds (70) and yellow wax (30) absorb 23 parts of water; 100 parts of mixture of oil of almonds (70) and white wax (30) absorb 31 parts of water; 100 parts of mixture of linseed oil (70) and white wax (30) absorb 48·5 parts of water; 100 parts of mixture of oleic acid (70) and white wax (30) absorb 60 parts of water; 100 parts of lanolin absorb 105 parts of water. Lanolin, moreover, takes up about twice its weight of glycerine. The mixture of lanolin with water or with glycerine is perfectly stable and homogeneous. According to Dieterich, the addition of water to a fatty body greatly increases the absorbent power of the skin for such a body and for drugs dissolved therein. Perli's experiments do not touch upon the value of lanolin in cutaneous affections. The object in view was merely to see whether the results arrived at by Bachmann were trustworthy. Bachmann found that, when two grammes of ointment of iodide of potassium with lanolin were rubbed into the skin, the ointment disappeared rapidly; and in a short time iodide of potassium was found in the urine, which became more evident after the lapse of forty-five minutes. Perli caused frictions to be made in the ilio-costal space in two young men, with equally delicate skins. A pomade of twenty grammes of lanolin, with (in the one case) two grammes of iodide of potassium, and (in the other case) with two grammes of hydrochlorate of quinine, was employed. On account of the difficulty of rubbing in such a pomade, owing to its consistence, the lanolin was, after the first day of the experiment, mixed either with ten grammes of lard or of glycerine, and the iodide of potassium was first dissolved in water. The urine was most carefully examined. By means of the test with starch-paste and nitric-nitrous acid, it was scarcely possible to detect a trace of iodine, while the chloroform and chlorine-water test gave absolutely negative results. Bachmann's extraordinary results were obtained by this last test; but Perli concludes from an independent experiment that the starch and nitric-nitrous acid method is ten times more delicate. The search for quinine by extraction, and then testing with the double iodide of mercury and potassium, as well as with tincture of iodine and iodide of potassium, was altogether negative. The author concludes that if other drugs—such as mercury, salicylic acid, or carbolic acid—be absorbed through the unbroken skin, this is not due to the lanolin, since they are equally well absorbed when applied with any other vehicle.

William R. Huggard, M.D.

5900. *Macgregor on the Value of Boric Acid in Various Conditions of the Mouth.*—In the *Brit. Med. Jour.*, July 1886, p. 63, Mr. A. D. Macgregor states that boric acid will be found useful in all conditions of the mouth, fauces, pharynx, and nose, where there is any abrasion of the epithelium; whether it be used as a powder, gargle, mouth-wash, pigment, or confection. In simple catarrhal stomatitis, a mouth-wash, containing from 10 to 15 grains to the fluid ounce, speedily cures the condition; in the ulcerative form, a local application of the powder or pigment should be made in addition to the mouth-wash. The pigment is a solution of boric acid in glycerine (1 in 4 or 5). Nothing is so good in cases of thrush as this remedy, especially when mixed with borax. In cases of fever, when the mouth is dry and lips cracked, a pigment containing 30 grains of boric acid, 20 grains of chlorate of potassium, 5 drachms of lemon juice, and 3 drachms of glycerine, forms a most effectual and soothing application. As a tooth-powder the author has used it for many years in the following form:—Boric acid, 40 grains; chlorate of potassium, ½ a drachm; powdered guiacum, 20 grains; prepared chalk, 1 drachm; powdered carbonate of magnesia to one ounce, and scented with otto of roses. The author adds that Barff's boroglyceride can replace boric acid in almost all of the forms of administration enumerated by him.

5901. *Paget on Cucaine in Hay-Fever.*—In the *Brit. Med. Jour.*, July 1886, p. 18, Dr. W. S. Paget states that he can testify from personal experience to the efficacy of cucaine in the relief of hay-fever. The author employs a small spray-producer, and a solution of cucaine (2 per cent.). A few minims sprayed upon the eyes, with the lids half closed, and afterwards each nostril, will give relief for some time. When the symptoms return, the spray must be repeated. About half a grain of cucaine is sufficient to use each time, and, if repeated several times in the day, more relief is obtained than by any other method of treatment. [Many papers have appeared in this journal and other periodicals which confirm Dr. Paget's views. Vide *Medical Digest Appendix*, 663 : 3.—*Rep.*]

5902. *Moorhead on a Cure for Hay-Fever.*—In the *Brit. Med. Jour.*, July 1886, p. 18, Dr. T. H. Moorhead states how he has obtained relief from hay-fever, after having suffered annually from this complaint for thirty years. The author tried cucaine and found the benefit too transient; he next tried irrigation of the nostrils with a solution of alum and borax; this caused such intolerable pain that Dr. Moorhead was obliged to give himself a hypodermic injection containing one-twentieth of a grain of morphine, and one-two-hundredth of a grain of atropine. In ten minutes the pain was relieved, and all the symptoms of hay-fever had gone. The same quantity of morphine and atropine was afterwards injected night and morning, and complete relief was obtained. [For notes on the use of belladonna alone and combined with opium, see *Medical Digest Appendix*, 663 : 4.—*Rep.*]

5903. *Hutchison on Pure Terebene in Winter Cough.*—In the *Brit. Med. Jour.*, July 1886, p. 15, Dr. J. Hutchison gives his experiences in the use of terebene for bronchitis and winter-cough. When the case is slight, especially at night, and not of long standing, with moderate and easy expectoration, and no disturbance of the general health, then pure terebene acts almost as a charm. In cases of emphysema, which may have lasted for some years, with troublesome cough, shortness of breath, broken sleep, and much disturbance of the general health, the drug must be given in doses of ten to fifteen drops for some time, and then a good result is nearly always obtained. Terebene may be given alone on a lump of sugar, or it may be taken mixed with cod-liver oil. Some patients complained of nausea while taking it, others of diarrhœa, many of drowsiness, and some of giddiness.

RICHARD NEALE, M.D.

5904. *Züboff on Permanganate of Potassa in Burns and Frost-bite.*—In the *Meditz. Obozrenïë*, No. 8, 1886, p. 758, Dr. A. A. Züboff writes that, having tried permanganate of potash in forty-four cases of burns and thirteen cases of frost-bite, he arrived at the following conclusions. 1. Permanganate of potash, in the shape of frequently changed compresses (linen or hygroscopic cotton-wool soaked in a solution of one or two grains to an ounce of water) is an effective remedy for frost-bite of the first and second degrees. 2. The same lotion acts as successfully in burns of the first degree. 3. It is less successful in burns of the second degree. At all events, the permanganate lotion rapidly relieves inflammation around blisters, and pain, and prevents suppuration when blisters remain intact. In this category of cases, it is advisable to employ a weaker solution (half a grain, or even less, to an ounce). Two cases are given in detail. One of the patients received (when taking a vapour-bath) a scald of the first degree, extending from the breasts to the inguinal folds anteriorly, and between the same levels posteriorly. Pain disappeared within an hour after the application of the permanganate lotion. Soon the epidermis began to peel off. She left well in eleven days. Another woman had a similar scald of the face and a hand. She also obtained rapid relief, the treatment lasting a week.

5905. *Garthier on Commercial Preparations of Cucaine.*—In the *Meditz. Obozrenïë*, No. 8, 1886, p. 763, Dr. F. K. Garthier states that a thoroughly pure cucaine may be identified by the following tests. 1. It must evaporate tracelessly on being heated on a platine sheet. 2. Solutions of its muriate must be neutral. 3. The drug must not change its colour on being treated by sulphuric acid. 4. When a solution of two centigrammes to half a gramme of hydrochlorate of cucaine is mixed with one drop of a 2 per cent. solution of permanganate of potash, the resulting fluid must assume a red colour and remain transparent. On a subsequent addition, drop by drop, of the permanganate solution, there must appear a red precipitate consisting of permanganate of cucaine, which becomes brown (hydrate of manganese) only after heating, and that without evolving an odour of bitter almonds. When the addition of one drop of the permanganate solution brings about a brown discoloration or brown precipitate, or when on heating the mixture there appears an odour of bitter almonds, the preparation is impure and unfit for use. Having analysed six specimens of commercial hydrochlorate of cucaine, Dr. Garthier found that only one of them—Merck's cucaine—satisfied the demands as stated above (except having an acid reaction). All the remaining five proved impure.

5906. *Afanasieff on the Action of Lobelia Inflata on the Heart and Circulation.*—Following a suggestion of Professor S. P. Botkin, Dr. S. Afanasieff undertook (*Ejened. Klinitch. Gazeta*, No. 18, 1886, p. 365) a series of experiments on dogs and frogs to study the action of lobelia inflata on the heart and circulation. In a preliminary note the author states that the least lethal intravenous dose for a dog is twenty grammes of the leaves, in the shape of infusion, per kilogramme of the animal's weight. A dose of 65·5 grammes per kilogramme rapidly kills the animal, in consequence of the arrest of respiration. On opening the chest, the heart is found greatly distended, and irregularly and weakly contracting for about twenty minutes after the stoppage of breathing. An intravenous injection of a large toxic (but non-fatal) dose produces at first a fall of the arterial tension with a simultaneous retardation of the cardiac contractions; ther rapid rise, far above the normal level, ensues; while the cardiac rhythm alternately changes. Having reached a maximal point, the blood-pressure gradually—within five minutes or so—falls to the normal level, or still lower. On repeating large doses, the rise of tension after a second injection is less considerable than after the first; after a third, less considerable than after the second, and so on, until a moment is reached when a new injection produces no influence on the blood-pressure. The same, only less pronounced, effects are observed from the injection of smaller doses, both the rise and the fall being smaller. Under certain moderate doses, the tension falls only to the normal level, but not further. On gradually diminishing the doses, the author found some which gave prolonged rise of the tension, the cardiac action all the time remaining markedly retarded. Thus, 0·08 gramme per kilogramme of the (curarised) animal gave a rise lasting one hour and thirty-eight minutes. In frogs, an injection into the femoral sac of thirty-five centigrammes of alcoholic extract of lobelia produces a rapid retardation of the cardiac action, weakness of individual contractions, periodically recurring diastolic arrests, disturbance in the co-ordination of contraction of the individual cardiac cavities, and, finally, diastolic arrest with distension. Small doses give at first an increase, and then a decrease, in the frequency and strength of cardiac contraction. Very small doses (five milligrammes) of the extract give only a more or less prolonged increase in the frequency of the heart's action.

5907. *Tcheltzoff on the Action of Cascara Sagrada on Digestion.*—Dr. M. M. Tcheltzoff, of Professor S. P. Botkin's laboratory, details (*Ejened. Klinitch. Gazeta*, Nos. 21 and 22, 1886) his experiments on the action of fluid extract of cascara sagrada on the secretion of digestive juices. His main results have been given in the LONDON MEDICAL RECORD, March 1885, p. 103. It remains only to supplement the former report by noticing that the author studied the influence of the drug on the secretion of bile parallel with that of rhamnus frangulus, fluid extract of rhubarb root, and fluid extract of aloes. He found that, as a cholagogue, cascara occupies the highest place after rhubarb; of the group, rhamnus frangulus possesses the weakest cholagogue action. All the drugs increase the quantity of bile by augmenting that of its water. In general, the author thinks that cascara sagrada, by its power of considerably increasing the secretion of the gastric and pancreatic juices and of bile, undoubtedly acts favourably 'on the gastro-intestinal canal, and is an useful remedy for dyspepsia, jaundice, and similar affections of the digestive organs.'

5908. *Olsztynski on the Green Colour of Extract of Cannabis Indica.*—According to a recent rather disquieting statement by Dr. Maclagan, the green coloration of extract of Indian hemp is caused by the presence of pretty considerable quantities of copper which is introduced into the preparation by the employment of copper utensils. An extract prepared in a china vessel would have a brownish dark colour. Maclagan's assertions are now flatly contradicted in the Polish *Wiadomosci Farmaceutyczne*, No. 5, 1886, p. 104, by M. Wladislaw Olsztynski, who has analysed a fresh specimen of the extract possessing a beautiful green colour, and has not found any trace of the metal in question. Hence the author concludes that a green coloration is a natural property of the drug. Whether the preparation possesses a pure green or a more brownish-green tint, depends upon the freshness of the material used. On heating the extract with copper filings it assumes a still more beautiful green colour.

5909. *Fijalkowski on Obtaining Fat (Lanolin) from Sheep's Wool.*—In the *Wiadomosci Farmaceutyczne*, No. 13, 1886, p. 289, Mr. F. Fijalkowski describes three methods by which he obtained fat from sheep's wool. The best and cheapest of the three is as follows. The author took twelve pounds of commercial (crude) sheep's wool, cleansed it by twenty-four hours' soaking in cold water, several times washed it out with cold water until the latter ran off quite pure, boiled the purified wool (six pounds) with water, and twice pressed out the hot mass in linen between sheets of tin. In that way he obtained eighteen ounces of fat, of a white colour, and having an odour of sheep. Altogether, the product was different from the commercial lanolin, which is of a yellow colour resembling that of old diachylon plaster, and possesses a different odour.

5910. *Valitzkaia on a Case of Toxic Action of Quinine (?)*—In the *Russkaia Meditz.*, No. 14, 1886, p. 243, Dr. Maria K. Valitzkaia, of Kharkov, details a rather obscure case of a generally healthy lady, aged 26, who, while suffering from toothache, took a tablet containing five grains of quinine. A few minutes later there appeared fainting, then excitement, erythematous redness of the face and breast, marked dilatation of the pupils, dryness of the throat, nausea, vomiting, weakness of the pulse (160 a minute), shallow breathing (38), rise of temperature (38°·5 C.). Under the administration of strong black coffee, and cold to the head, there ensued, in two hours, a gradual improvement. On the next morning, only some weakness remained. The patient had formerly often taken quinine in five or ten-grain doses, but never experienced anything like on the present occasion. The tablet ingested by her was one of a dozen purchased by her mother, who herself had used all but two without any inconvenience whatever. The remaining tablet was sent to a chemist's shop for analysis, but unfortunately was not duly analysed, the chemist giving an absurd answer to the effect that 'it is very likely quinine, but may be something else.'

5911. *Grigorovitch on the Application of Cold to the Cardiac Region in Fever.*—In a preliminary note in the *Vratch*, No. 24, 1886, p. 441, Dr. F. J. Grigorovitch, of the Rostov lazzaretto, writes that he has studied the influence of cold (either in the shape of pounded ice or snow in gutta-percha bags, or in the shape of cold compresses) applied to the cardiac region in typhoid patients, for from six to twelve hours daily. His results may be given thus. 1. Cold undoubtedly reaches the heart, and brings about certain alterations in its action. 2. Its influence manifests itself especially markedly when there exists an increased palpitation, induced by a rapid rise of the temperature to a high level. 3. Cold remains inactive when it is used late in the disease (that is, when the cardiac muscle has undergone profound changes). 4. The application of cold to the cardiac region may protect the heart from the action of a high febrile temperature, only when the procedure is resorted to from the beginning of the disease. 5. Under its influence, the cardiac action improves and the number of beats becomes less, while their strength and fulness increase. 6. Cold applied to the cardiac region relieves the typhoid state and acts favourably on the breathing, the latter becoming less frequent, deeper, and more regular. 7. It seems to somewhat lower the general temperature of the body.

5912. *Bürtzeff on the Antipyretic Action of Antipyrin.*—At a meeting of the St. Petersburg Marine Medical Society, Dr. Bürtzeff related (*Meditz. Pribavl. k'Morskomü Sbornikü*, March 1886, p. 231) his observations on the action of antipyrin on healthy and diseased subjects. He arrives at the following conclusions. 1. Antipyrin is inactive in malarial fever. 2. Doses of two to three and a half grammes lower the febrile temperature by 0°·5 to 2°·8 C., the fall lasting from five to eight hours, and being followed by a slow re-elevation. 3. The drug sometimes causes unpleasant accessory phenomena, such as nausea, vomiting, drowsiness, perspiration without defervescence; hence it is advisable to be cautious in dosage. 4. In healthy persons, the said doses produce a fall of temperature varying from 0°·2 to 0°·5 C. 5. Nausea and vomiting are caused most frequently by preparations of yellow colour, and may be averted by mixing the solution with mint-water.

5913. *Krysinski on Argyria.*—In a preliminary note in the *Vratch*, No. 26, 1886, p. 471, Dr. S. Krysinski, of the Dorpat Pharmacological Institution, refers to the observations of Orfila, Fromann, Riemer, Neumann and Weichselbaum, Dietrich, Jacobi, Brande, Mayençon, Bergeret, Cloez, Huyet, Cziz, Rozsahegyi, Rosenstirn, Loew, V. S. Bogoslovsky, Charcot, and Eulenburg, and states that he has examined organs from three cases of argyria in man, and made a series of experiments on rabbits and rats, which have led to the following results. 1. The black granules, which are met in the organs in cases of argyria in man or in animals, are constituted of an organic compound of silver, the precise composition of which is yet to be determined. 2. The granules are deposited first in the walls of the blood-vessels, and subsequently in the connective tissue. 3. The deposition leads to an alteration and degeneration of the vessels. 4. The granules may be deposited in the epithelial cells as well as in the endothelium, then in the afferent and efferent vessels of the Malpighian bodies of the kidneys, and in the leucocytes of the blood. 5. In the liver, the granules are deposited mainly in the ramuli of the portal vein and central acinar veins, and also in the capillaries between the former and the latter vessels (as Huyet first pointed out). 6. The deposition of silver in the organs takes place not only in chronic but also in acute poisoning by the metal, even if the poisoning have lasted only forty-eight hours. The deposits are here, however, still colourless, and turn black only after treating them with sulphuretted hydrogen. 7. The deposition seems to be most intense in the bone-marrow (in all its cellular elements). The general (rather sweeping) conclusion drawn by Dr. Krysinski from all the facts stated above is to the effect that 'not only a very prolonged, but even a short treatment by silver is highly dangerous, and, as such, must be absolutely discarded.'

5914. *Koriander on Naphthalin in Helminthiasis.*—In the *Vratch*, No. 26, 1886, p. 482, Dr. Koriander, of Samarkand, writes that naphthalin is a cheap and excellent remedy for tape-worms and ascarides. He gives the drug in powder with sugar, in two-grain or three-grain doses twice daily to a child, and from one to four scruples daily to an adult.

5915. *Walter on the Influence of Nitrite of Amyl on the Urine.*—The statements of Drs. Mya (*vide* the LONDON MEDICAL RECORD, April 1885, p. 155), A. Macdonald (*ib.* p. 284), and Giuseppe and Santoni (*see* the *Brit. Med. Jour.*, April 11, 1885), have induced Dr. P. A. Walter (*Vratch*, No. 12, 1886) to undertake a course of very careful experiments on five healthy men, aged from 20 to 28, in Professor V. A. Manasseïn's clinic. Each experiment lasted four days. For the first two days, the subject did not receive any drug; during the next two he inhaled three or four drops of nitrite of amyl four times daily. In two of the men uric acid was determined after Salkowski's method; in the remaining three after three methods simultaneously—to wit, Salkowski's, Heintz's, and Ludwig's. Urea was determined after Borodin's method, and the whole amount of nitrogen after Kjeldahl-Borodin's method, as modified by Kürloff and Korkünoff. The acidity of the urine was tested by means of caustic soda. The results obtained by Dr. Walter are at variance with those of his predecessors. They are as follows. 1. In healthy subjects the inhalation of nitrite of amyl, in the dose stated, does not in the least influence the daily amount of urea, uric acid, and nitrogen excreted in the urine. 2. The same may be stated as regards the daily quantity of the urine, as well as the acidity of the latter. It is worth while to mention that the analytical tables adduced by the author unmistakably prove that Heintz's method of determination of uric acid does not give any reliable results, while the figures furnished by Salkowski's method closely tally with those of Ludwig's. V. IDELSON, M.D.

5916. *Dumas on Aconitine in Neuralgia.*—The characteristic physiological properties of aconitine recommend this remedy in the treatment of painful affections, especially of the different kinds of neuralgia. (Gubler, Franceschini, Laborde, Seguin, of New York, De Molînes, A. Dumas, of Cette.) Dr. A. Dumas, surgeon to the Hospital of Cette, in his recently published book, *De l'Aconitine, de son Emploi dans les Névralgies faciales et le Tic Douloureux, sa Posologie*, gives the following indications for the use of this medicine: 'Aconitine is an energetic, very efficacious remedy, especially in congestive facial neuralgia, and in some other kinds of neuralgia *a frigore.* It is useful in catarrhal affections in general. Like other alkaloids, there is a certain degree of tolerance of it, when methodically administered, and no effects of accumulation in the organism are to be apprehended. It is better to give it in very divided doses, and at carefully calculated intervals. One ought to begin with small doses, which are progressively increased.' Aconitine is useful not only in neuralgia, but will also prove of eminent service in other painful affections, such as cephalalgia, megrim, pleurodynia; likewise in articular rheumatism and acute arthritis. It has been given with the most encouraging results in many cases of these diseases. Aconitine is a very precise remedy, which acts in man in a certain and regular manner; but for its energetic action, it has to be prescribed in small and well-distanced doses. Moreover, one ought to be
sure of its source, and, when using its
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and always of the same kind, *e.g.* M
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pointments, resulting from alkaloid
matters, which were denounced b
at the meeting of the Société Médic

taux de Paris on Oct. 22, 1880. Neuralgiæ are frequently accompanied by very marked intermittent and periodical complications, in order to combat which Dr. Mousette has compounded very exactly dosed pills, each containing one-fifth of a milligramme (one-twelfth of a grain) of aconitine and of quinine, the action of which is specific in this kind of complications. At the commencement, the susceptibility of the patient ought to be tested, and on the first day three pills (in the morning, at noon, and at bed-time) should be given. If, on the first day, no marked relief be observed, the daily dose may be gradually increased by one pill, to six within twenty-four hours; this dose has to be continued until complete cessation of the pains. Only in very exceptional cases a larger dose may be prescribed. In case of incidental slight attacks of diarrhœa, the daily dose has at once to be diminished. FERD. ADALB. JUNKER, M.D.

5917. *Luton on the Therapeutic Use of Acetate of Copper.*—M. Luton has made a communication to the Academy of Medicine upon the therapeutic use of acetate of copper, principally in pulmonary tuberculosis. He prescribed this salt in a daily dose of 1 centigramme, combined with 25 milligrammes of extract of opium. In this form it is perfectly tolerated by the patient and produces sleep. The pills are taken in the evening. Under the influence of acetate of copper, M. Luton has seen cough, expectoration, high evening fever, and nocturnal perspirations, diminish. At the same time the stethoscopic signs reveal an amelioration of the pulmonary lesions, but the appetite does not improve. M. Luton thinks that the hectic fever of phthisis has given place to a continuous fever of an infectious nature. M. Luton considers this action parasitic and specific, but his colleague, M. Poncet, regards the salt as a tonic and stimulant. W. VIGNAL.

5918. *Guérin on Gelosine.*—Gelosine is a mucilaginous principle extracted from the *gelidinum corneum*, a native of Japan. It is a colourless, amorphous, non-nitrogenous substance, which forms the basis of vegetable jellies. It is soluble in warm water, rendering solid on cooling 550 times its own volume, the result being a fine transparent jelly, which is very slow to undergo putrefactive changes. M. Guérin considers that gelosine is admirably adapted for purposes such as poultices, vaginal and urethral suppositories, &c. The jelly undergoes gradual contraction, in which process any medicinal substance contained is slowly expressed until complete desiccation is effected, thus bringing it constantly into contact with the skin. The only preparation needed is to dissolve gelosine in suitable quantity in warm water, and then add the medicinal agent, either in solution or in a state of fine division. Its cost is very small. ALFRED S. GUBB.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

5919. ANTIFËËFF, J.—Two Cases of Congenital Absence of the Womb. (*Meditz. Obozrenïĕ*, No. 7, 1886, p. 644.)

5920. LIEDERWALD.—On a Case of Congenital Absence of the Womb and Vagina. (*Vratch*, No. 12, 1886, pp. 225–6.)

5921. TROIANOVA, FAÏNA.—On a Case of Fibromyoma of the Womb. (*Vratch*, No. 19, 1886, p. 361.)

5922. BLANC, DR. EMILE.—On a Case of Anencephalic Hydrocephalus. (*Nouvelles Archives d'Obstétrique et de Gynécologie*, May 25, 1886.)

5923. WECKS, DR.—On a Case of Acute Inversion of the Uterus. (*Archives de Tocologie*, July 15, 1886.)

5924. JENNINGS.—On Excision of the Entire Uterus for Cancer. (*Lancet*, April 1886, p. 682.)

5925. TAIT.—One Hundred and Thirty-nine Consecutive Ovariotomies without a Death. (*Brit. Med. Jour.*, May 1886, p. 921.)

5926. HARTZHORNE.—Cucaine in Parturition. (*Lancet*, June, p. 1148.)

ART. 5919. *Antifëëff on Two Cases of Congenital Absence of the Womb.*—In the *Meditz. Obozrenïĕ*, No. 7, 1886, p. 644, Dr. J. Antifëëff, of Sevsk, contributes two cases of this defect. One of the patients, a strongly made, healthy peasant woman, aged 26, married eight years, sought the author's advice on account of amenorrhœa. Her breasts were 'as in a virgin'; the external genitals were normal, but the vagina measured only 1½ inch, and ended in a *cul-de-sac*. Not a trace of a womb was found either through the vagina or through the rectum. In the situation of the right ovary, there was felt a short hard string. No molimina menstrualia were ever present. Another patient, a well-developed, muscular, healthy, and strong soldier's wife, aged 23, married six years, came to Dr. Antifëëff only to ask whether she ever could have children (and 'was very much delighted on receiving a negative answer'). Her external genital organs and breasts were normal. The vagina was represented by a blind sac, measuring about one inch in length. Both the womb and the ovaries were entirely absent. She felt a slight indisposition once monthly. Both of the women declared that they were indifferent in regard to sexual intercourse.

5920. *Liederwald on a Case of Congenital Absence of the Womb and Vagina.*—At a meeting of the St. Petersburg Society of Russian Practitioners, Dr. Liederwald, of Professor A. J. Lebedeff's clinic, showed (*Vratch*, No. 12, 1886) a peasant woman, aged 21, of a typical female habitus, with normally developed breasts, pubic hair, labia, and clitoris, but with complete absence of the vagina and uterus, as a double examination through the rectum and bladder proved. The entrance was closed by common integument, which easily yielded to the forefinger, forming a pit about three centimètres long. In the inguinal regions there were distinctly felt some cords, the pelvic ends of which could not be traced.

5921. *Troianova on a Case of Fibro-myoma of the Womb.*—At a meeting of the Pirogovian Russian Chirurgical Society, Dr. Faïna Troianova related (*Vratch*, No. 19, 1886, p. 361) an interesting case of a married woman, aged 45, who had been admitted to Professor A. J. Lebedeff's clinic in a state of prostration, with a hardly perceptible pulse, a temperature of 38°·7 C. (101°·6 Fahr.), and a tumour, as large as a man's fist, protruding from the genital fissure. On examination, it was found that the tumour was attached to the fundus of the womb, which was in a completely inverted state. According to the woman's statement, she began to suffer from floodings about three years before, the prolapsus occurring but recently. The tumour was removed (without anæsthetics) at once, but reposition of the womb was postponed. On examination on the eighth day, no prolapsus was found, the uterus having undergone spontaneous reduction. On the eleventh day after the operation, the woman left the clinic well. The polypus proved to be a fibro-myoma, containing in its midst a large cavity filled with pus. In conclusion, Dr. Troianova draws attention to the rarity of spontaneous reposition of the uterus, when it becomes inverted under such circumstances as in her case. V. IDELSON, M.D.

5922. *Blanc on a Case of Anencephalic Hydrocephalus.*—Claudine B., primipara, 24 years of age, was admitted on Dec. 22, 1885. She last menstruated on March 25. There was nothing remarkable in her history. The pelvis was decidedly rachitic, and there was marked contraction at the outlet, which only measured 19 centimètres antero-posteriorly (external measurement). The pregnancy had been healthy, and the patient had been to work until the last day or two. By palpation, the back of the fœtus was found to be to the left and behind. There was not much amniotic fluid. The ischia were approximated, and the ischial spines prominent. The lower part of the sacrum was bent abruptly forward. On vaginal examination, fluctuation could be detected over the fontanelle. Labour began in the night of Dec. 22, and the pains continued until six o'clock the following evening, when the membranes ruptured. Notwithstanding some sharp pains, the head did not clear the brim. Hydrocephalus was diagnosed as probable. It was decided to attempt delivery by means of the forceps, and the patient was anæsthetised. Twenty minutes' traction proved ineffectual. Perforation was then resorted to by Dr. Bouchacourt, and about 10 ounces of clear fluid came away. Almost immediately the head came down as far as the vulva, and with some difficulty delivery was completed. The child weighed 3 kilogrammes (about 7 lbs.), and died soon after birth. The placenta had to be removed by hand, owing to the hour-glass contraction of the uterus. Involution took place satisfactorily, without any rise in the temperature. The fœtus measured 20 inches in length, and its head was shaped like a truncated cone; and from the middle portion of the left fronto-parietal section, a deep groove extended toward the left parietal bone. Inside the dura mater, which was deeply pigmented on its inner surface, no trace of cerebral convolutions could be found, only the ganglia of the base of the brain. The cerebellum was normal in size and shape. The anterior surface of the medulla oblongata bulged, over more than 2½ inches, to the extent of about a third of an inch. Nothing abnormal was found in the viscera.

5923. *Wecks on a Case of Acute Inversion of the Uterus.*—The patient, 22 years of age, was at term with her first child. One morning, without the slightest warning, the membranes gave way. Twenty hours later the os uteri began to dilate, the head presenting with the occiput forwards and to the left. The perinæum was very rigid; and delivery was effected, by means of the forceps, of a child weighing nine pounds, without any laceration of the perinæum. After attending to the child, compression was exercised on the uterus but no traction was made on the cord. The woman was directed to bear down, and while so doing Dr. Wecks noticed that the globular form of the uterus gradually became less marked. The placenta came down, but its removal was followed by a fairly copious hæmorrhage. On introducing two fingers to ascertain the cause of the flooding, a large tumour was found occupying the vagina, which turned out to be the uterus in a state of inversion. He then passed the whole hand into the vagina and pressed upon the uterus, reduction being effected in two or three minutes. A dose of ergot was given and the uterus was held in place, ice being applied to the abdomen until contractions set in. On a further examination, a pyriform body could be felt projecting into the vagina, consisting of part of the uterus. By means of compression, &c., the inversion was completely reduced in about half an hour. Recovery took place without any unfavourable symptoms. The case is interesting as tending to show that uterine inversion may take place without (1) abnormally short umbilical cord, (2) traction on the cord, (3) irregular compression of the fundus or too energetic bearing-down efforts, and without (4) undue rapidity of labour. Dr. Wecks is of opinion that the proportion of such cases usually given (1 in 190,000) is in reality far too small. He points out that it appears to occur indifferently in delicate and robust subjects, after slow as well as in rapid labours, and in the practice of skilled attendants as often as when none such is available; finally, that traction on the cord and compression of the fundus are, after all, only exciting causes.

ALFRED S. GUBB.

5924. *Jennings on the Excision of the Entire Uterus for Cancer.*—In the *Lancet*, April 1886, p. 682, Mr. Jennings records a case of excision of the entire uterus for cancer. The patient was aged 35, and consulted the author on account of a sanguineous vaginal discharge, associated with pelvic pain and other symptoms of some months' duration. On examination, there was found an infiltration of the cervix uteri, with ulceration around the os externum. On Sept. 5, 1885, the cervix was painted freely with a solution of cucaine, and the new growth and the surrounding tissues were destroyed with sticks of caustic potash. Ten days later, it was seen that a greater destruction of the cervix was necessary. The chief portion of the diseased cervix was scraped away with a curette, and Paquelin's thermo-cautery was freely applied to the raw surface. After this the patient was well enough to leave the hospital, and attended as an out-patient. Towards the end of October the hæmorrhage and pain had returned, and the author visited her at her own home with Mr. Prowse. The amount of new growth was considerable, and the only means of averting death lay in extirpating the uterus. On Oct. 30, the patient being placed in the lithotomy position, and the vagina well syringed out with a carbolised solution, a duckbill speculum was introduced into the vagina, the urine was drawn off, and a large curved sound was passed into the bladder, so that this viscus could be drawn up against the pubes during the operation. A ligature was passed through the cervix, and traction was made upon it; but the tissues gave way, and it was found necessary to grasp the cervix as high upwards as possible with vulsellum-forceps. The peritoneum was then slowly separated from the posterior wall of the uterus by the left forefinger, as high as the body, and then torn through, so that the exploring finger passed into Douglas's space. The right forefinger was passed through the anterior semilunar opening, and the ureters were easily separated from the uterus and roof of the vagina; the peritoneum was also separated from the uterus for some distance and then torn through. The speculum being introduced again into the vagina, and the anterior vaginal wall being elevated with a spoon, the narrow lateral strips of vaginal membrane, which had been allowed to remain attached to the uterus, were snipped through with blunt-pointed scissors. Up to this point there had been no serious hæmorrhage. The uterine arteries were next grasped with a pressure-forceps on each side of the cervix, and divided with scissors on the median sides of the forceps. Profuse hæmorrhage occurred from the uterine extremities of these vessels, and was only checked by passing the wire of an écraseur quickly round the cervix and pushing it up as far as possible above the mouths of the vessels. The proximal ends were then ligatured, and the pressure-forceps removed. The wire of the écraseur was then slowly tightened, but it soon snapped; and the extirpation was proceeded with by passing on each side of the uterus a ligature which included the round and broad ligaments, Fallopian tubes, and other structures passing from the uterus. These ligatures were tied as tightly as possible, but they were not tight enough to maintain their grasp when the uterus was cut away. Accordingly, two straight Wells's pressure-forceps were used to grasp the broad ligaments on the outer side of the ligatures. The broad ligaments were carefully cut through with scissors close to the uterus, which was then easily extracted. When all hæmorrhage had ceased, the vagina was plugged with iodoform wool, after the pelvic cavity had been cleansed with carbolised sponges. Thirty hours after the operation, the pressure-forceps were removed. The patient made a good recovery, and all discharge from the vagina ceased within three weeks. Unfortunately in March 1886, three months after the operation, it was noticed that a recurrence of the disease had taken place.

5925. *Tait on One Hundred and Thirty-nine Consecutive Ovariotomies without a Death.*—In the *Brit. Med. Jour.*, May 1886, p. 921, Mr. Lawson Tait gives a summary of 139 consecutive cases of ovariotomy performed by him between January 1, 1884, and December 31, 1885, without one death. Eight years ago Sir Spencer Wells stated the mortality of ovariotomy to be 25 per cent.; now it is purely an accident to lose a case, if proper care be taken. The old idea of giving opium on the slightest indication of peritonitis has given place to the plan adopted by Mr. Lawson Tait, since 1875, of giving a brisk purge, and all opiates are forbidden in the author's practice unless to ease a dying patient. The practice of tapping has completely died out; and Stilling states that tapping an ovarian tumour is now a surgical crime, so that ovarian tumours should be removed as soon as they are recognised. Another change effected within the last eight years is the shortening of the incision. Tait's average incision is two inches, and anything over three inches is regarded by him as excessive. Nothing save irreducible solidity can justify an incision of five inches. The method of stitching the wound adopted by the author is to include skin, fascia, muscle, and peritoneum in the stitches, keeping the corresponding tissues on each side as correctly in relation to each other as possible, and thus giving as much strength as possible to the abdominal wall. As to dressing the wound, the author still adheres to the dry absorbent cotton-wool. The main feature of change accomplished in the last eight years, in ovariotomy, is the treatment of the pedicle. The clamp has been wholly deserted, and the intraperitoneal method adopted. The varieties of this method are practically only two—the silk ligature, and the cautery; but the author adheres to his plan of tying the pedicle with what is known as a Staffordshire knot, and it has never failed him. At one time the author cleansed the peritoneum with sponges, but now he practices a system of washing. The abdomen is filled with blood-warm water, and washed out until the water comes off clear. The water used is plain unfiltered tap-water, warmed by the addition of sufficient boiling water. It is full of germs and spores. The old idea that the removal of two ovaries was a far more fatal operation than the removal of one has been dispelled; of the 139 cases, in about one-third both ovaries were removed.

5926. *Hartzhorne on Cucaine in Parturition.*—In the *Lancet*, June 1886, p. 1148, Mr. B. F. Hartzhorne writes that he has used cucaine with beneficial results in parturition. The manner in which it is used is as follows. By means of an ordinary glass syringe, a compound, composed of six parts of cucaine, twenty-four of vaseline, and twenty of glycerine, is injected as high up the vagina as possible. By this means, the cucaine is applied to all parts of the vagina, insuring a more lasting effect than when applied in solution. The pain due to pressure, the dilatation of the cervix, and the expansion of the perinæum, is so markedly relieved by this means that an ordinary labour is deprived of half its agony. RICHARD NEALE, M.D.

DERMATOLOGY.

RECENT PAPERS.

5927. Allen.—The Uses of Pyrogallic Acid. (*Journal of Cutaneous and Venereal Diseases*, vol. iv., No. 1.)

5928. Jackson.—A Case of Dysidrosis of the Face. (*Ibid.*)

5929. Guibout.—The Treatment of the Scrofulous Diathesis. (*Ibid.*, No. 2.)

5930. Kaposi.—Xeroderma Pigmentosum. (*Ibid.*)

5931. Feulard.—Urticaria Pigmentosa. (*Ibid.*)

5932. Lesser.—The Treatment of Lupus by Arsenic. (*Ibid.*)

5933. Lancereaux.—Contagiousness of Variola at the Beginning of the Eruption. (*Ibid.*)

5934. Piffard.—Keloid. (*Ibid.*)

5935. Robinson.—Keratosis of the Nails. (*Transactions of the New York Dermatological Society—Ibid.*, No. 5.)

5936. Fox.—The Value of Arsenic in Skin-diseases. (*Ibid.*)

5937. Vidal.—Iodic Purpura. (*Journal of Cutaneous and Venereal Diseases*, vol. iv., No. 3.)

5938. Morrow.—The Bullous Forms of Iodic Eruptions. (*Ibid.*, No. 4; *Ibid.*, No. 5.)

5939. Morrow.—Arsenical Eruption. (*Transactions of the New York Dermatological Society—Ibid.*, No. 6.)

5940. Lavasser.—Quinine Eruptions. (*Ibid.*)

5941. Riehl.—A New Form of Tuberculosis of the Skin. (*Wiener Med. Wochensch.*, No. 43, 1885; *Monatsh. für Prakt. Dermat.*, No. 1, 1886.)

5942. Hoffman.—The Treatment by Muslin Plasters. (*Deutsche Medizin. Wochensch.*, No. 51, 1885; *Monatsh. für Prakt. Dermat.*, No. 3, 1886.)

5943. Joseph.—Hereditary Bullous Eruption. (*Monatsh. für Prakt. Dermat.*, No. 1, 1886; *Viertelj. für Derm. und Syph.*, Heft 2.)

5944. Dickerhoff and Grawitz.—Acne Contagiosa of the Horse, and its Etiology. (*Virchow's Archiv*, Band cii., Heft 1; *Viertelj. für Derm. und Syph.*, 1886, Heft. 2.)

5945. Eichstedt.—A Disease which followed Vaccinations at Rugen in the Summer of 1885. (*Berl. Klin. Wochensch.*, No. 44, 1885; *Viertelj. für Derm. und Syph.*, 1886, Heft 2.)

5946. Bourdoni.—The Biological Qualities of the Microphytes of the Normal Skin. (*Fortschr. der Med.*, No. 5, 1885; *Viertelj. für Derm. und Syph.*, 1886, Heft 2.)

5947. Rheiner.—The Pathological Treatment of Erysipelas. (*Virchow's Archiv*, vol. c; *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885.)

5948. Pietsch.—The Complications and Sequelæ of Erysipelas. (*Inaug. Diss. Berl.*, 1884; *Viertelj. für Derm. und Syph.*, Heft 3 and 1885.)

5949. Breda.—Electrotherapie in Pruritus. (*Giorn. Ital. delle Mal. Ven. e delle Pelle*, March-April 1885; *Viertelj. für Derm. und Syph.*, Heft. 3 and 4, 1885.)

5950. Josseaume and Megnin.—A Case of Dermatobia Noxialis, J. Condot. (*Bull. de la Soc. Zool. de France*, 1884; *Viertelj. für Derm. und Syph.*, 3 and 4, 1885.)

5951. Costa.—Chrysarobin-Traumaticin. (*La Salute Italia Med.*, 1885; *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885.)

5952. Myrtle.—A Case of Prurigo. (*Brit. Med. Jour.*, June, p. 1213.)

Art. 5927. *Allen on Pyrogallic Acid.*—Dr. Allen, referring to some of the uses of pyrogallic acid in dermatology, states (*Journal of Cutaneous and Venereal Diseases*, January 1886), that Lucy G., aged 12, presented herself on Nov. 10, 1884, for the treatment of psoriasis, which occupied the parietal region of the scalp on each side, and an area on the right thigh, of the size of the palm. A ten per cent. pyrogallic ointment was ordered. During the first week there was marked improvement. About a week later, the tissues for an inch beyond the edge of the patch, and the diseased area itself, was blackened and charred, and the skin of the thigh was much inflamed for some distance. She had suffered much pain, and walked with difficulty. The ointment was discontinued, and a zinc oxide ointment substituted. There developed an ulceration of the healthy skin about the patch, which did not heal for some weeks. Subsequently the skin regained its normal condition, but was still of a dark-red hue, and somewhat pigmented.

5928. *Jackson on a Case of Dysidrosis of the Face.*—Dr. Jackson states (*Journal of Cutaneous and Venereal Diseases*, No. 1, 1886), that on Aug. 13, 1885, Mrs. K. presented herself at the New York Policlinic for treatment of a chronic eruption on the face. It occupied the lower half of the forehead, surrounding both orbits, occurring below both eyes, and on the sides and bridge of the nose, and running down on each side of the nose for a short distance on the upper lip. It had the appearance of large and small sago-grains scattered over the affected parts, and consisted entirely of fully distended vesicles with clear contents. The largest vesicle was about the size of a split French pea, the smaller ones were of the size of a pin-head. They were generally discrete, though here and there closely crowded together. A few had apparently joined at their edges, and some of them were of a darker shade than the others. Central puncta were visible in a very few. When pricked, a clear fluid with acid reaction escaped from them. They did not rupture of themselves, and their covers offered considerable resistance to the lancet. The skin otherwise was perfectly normal, and free from any appearance of inflammation. When slightly rubbed with a handkerchief, the skin became easily hyperæmic. There were a few dilated blood-vessels upon the nose.

5929. *Guibout on the Treatment of the Scrofulous Diathesis.*—M. Guibout (*Gazette Médicale des Hôpitaux*, No. 79, 1885, and *Journal of Cutaneous and Venereal Diseases*, February 1866) particularly recommends the use of iodine, either in the form of the iodide of starch, giving ten to fifteen grammes a day, or as iodide of potassium, with or without the addition of the tincture of iodine. A favourite prescription with him is: ℞ mucilage of acacia, 150 grammes; iodide of potassium, 2 grammes; tincture of iodine, 10 to 15 drops; tannin, 1 gramme; syrup of cinchona, 30 grammes; to be taken in three doses during the day. With the iodine, it is best to make use of cod-liver oil, iron, cinchona, mineral waters, and strong wines. The patient is to be put in the best hygienic surroundings, such as fresh air by the seashore, the use of baths, gymnastics, rich nourishing animal diet, and friction of the skin. If the appetite or digestion become sluggish, it is to be stimulated by bitter stomachics before meals, and by saline purgatives from time to time. For the destruction of scrofulides (such as lupus), one of three plans may be adopted. 1. Apply to the diseased patch an ointment composed of fifteen grammes of the biniodide of mercury and thirty grammes of fresh lard, to be left on for twenty-four hours. This will produce a pustular eruption. In time, with successive renewals of the ointment, the scrofulide will be destroyed. 2. Multiple punctures or scarifications may be made. 3. Paquelin's thermo-cautery may be used.

5930. *Kaposi on Xeroderma Pigmentosum.*—Professor Kaposi presented to the Society of Physicians of Vienna, on Oct. 23, 1885 (*Journal of Cutaneous and Venereal Diseases*, February 1886), the case of a girl, aged 9 years, affected with xeroderma pigmentosum. In the region of the face, the nose, and the eyelids, were present multiple carcinomatous nodes and warty formations, in a favourable condition to be transformed into epithelial cancer. Up to the present time thirty-eight cases of the disease have been published. These are collected and tabulated by Professor Kaposi (*Wiener Med. Wochensch.*, No. 44, 1885). The table shows that several children of a family are, as a rule, affected; and, with two exceptions, those observed up to the present time have been children of the same sex in each family. The youngest patient was 5 months, and the oldest 40 years of age. The sex was about evenly divided; there being twenty females and eighteen males. The largest series of observations in one family is reported by Rüder, who saw seven brothers thus affected. The other cases are mostly in groups of two or three brothers or sisters.

5931. *Feulard on Urticaria Pigmentosa.*—The author (*Annales de Dermatologie*, and *Journal of Cutaneous and Venereal Diseases*, No. 2, 1886) describes a case of urticaria pigmentosa. It occurred in a little girl, 19 months old; and began by an eruption of large red pimples and whitish blisters, accompanied by itching. It was first noticed on the abdomen, but gradually spread over the entire surface, and finally upon the face. When first seen, the body was completely covered by brownish spots, varying in depth of tinge from that of *café au lait* to that of copper: in some places they were separately scattered, round or oval, and as large as a fifty-centime piece; in others confluent, and forming irregular blotches. The disease was characterised by the production of urticarial patches, which underwent a gradual pigmentary change. M. Feulard further states that he had met with two other cases. One was that of an infant who had suffered from the malady almost from birth. In many places the eruption was of a bullous nature, in others unmistakably urticarial. The other patient was older, and presented every degree of the eruption.

5932. *Lesser on the Treatment of Lupus by Arsenic.*—To discover what influence the internal administration by arsenic, without any local therapy whatever, has upon the evolution of lupus, Lesser (*Centralbl. für die Med. Wissensch.*, No. 7, 1885, and *Jour. of Cutaneous and Venereal Diseases,* February 1886) administered it in five cases. He used in his observations Asiatic pills, and at times subcutaneous injections of Fowler's solution. In one case there was no beneficial result, but in the other four a decided improvement followed. The infiltrations became levelled down, and the author felt justified in his conclusions that the drug exercises a decided influence on the absorption of lupus infiltrations, although probably not under all conditions; and possibly it is not to be hoped that entire healing will take place under its administration. It is to be noted that the drug was given in large doses, and for a considerable length of time.

5933. *Lancereaux on the Contagiousness of Variola at the Beginning of the Eruption.*—Lancereaux (*Bull. de l'Académie de Méd.*, September 1885, and *Jour. of Cutaneous and Venereal Diseases,* No. 2, 1886) reports three cases occurring in his hospital service, in which small-pox was transmitted at the beginning of the eruption. From these facts, he draws the conclusion that variola may transmit itself on the first, or at least the second, day of the eruption, since the small-pox patient admitted by mistake to the hospital was transferred two days after the appearance of the eruption. This is, however, not the opinion commonly admitted. An English physician, Heberden, asserted that he was in possession of facts demonstrating that small-pox could not be communicated until after the second or third day of the eruption, and persons who had never had it might up to this period sleep with those who had it without risk of taking it.

5934. *Piffard on Keloid.*—Dr. Piffard (*Journal of Cutaneous and Venereal Diseases,* No. 3, 1886) presented to the New York Dermatological Society photographs of a case of keloid, having several points of interest. The patient was a female mulatto, aged 35 years, and a native of South Carolina. The disease had first made its appearance about ten years ago, as various-sized elevations of the skin in the region of the neck and shoulders. Later on, the lesions became generalised over the whole body, and around the neck took on a peculiar form, encircling the throat in a double coil. The interest of the case rests in the fact that, while new lesions have kept appearing from time to time, many of the old ones have spontaneously disappeared, by a process of involution, or retrogressive metamorphosis. The site of each lesion which has thus disappeared is marked by a pigmented spot or stain. Dr. Piffard called attention to the tendency to fibrous hyperplasia in the mulatto race, as evidenced by the great frequence with which keloid is met with among them, and the great tendency they show to uterine fibroids.

5935. *Robinson on Keratosis of the Nails.*—Dr. Robinson (New York Derm. Society, March 23, 1886; *Jour. of Cutaneous and Venereal Diseases,* No. 5, 1886) presented a case of a man, 26 years old, who had thickening of the nails ever since he was eighteen months old. All the nails of the hand were thickened to a greater or lesser extent; some as much as three-quarters of an inch. There were also on the sides and the fore-edges of the nails papillomatous-like growths. Both heels were thickened and macerated, presenting very deep fissures, which caused great pain in walking. There was also considerable hyperidrosis.

5936. *Fox on the Value of Arsenic in Skin-diseases.*—Dr. Fox (New York Dermatological Society, *Journal of Cutaneous and Venereal Diseases,* June 1886) states that the practice of giving arsenic in nearly every case of skin-disease is harmful, because it increases cutaneous congestion, intensifies pruritus, and thereby aggravates the eruption. The beneficial change which sometimes follows the use of arsenic is frequently due to adjuvant treatment. There has never been published a series of carefully recorded cases in which the sole administration of the drug has produced any notable therapeutic results. There are some forms of chronic inflammatory skin-disease, in which the internal use of arsenic will undoubtedly exert a beneficial influence. The regulation of the diet, and such hygienic and medical treatment as tends to improve the health of the patient, will do infinitely more good than the routine administration of arsenic.

5937. *Vidal on Iodic Purpura.*—Dr. Vidal (*Journal of Cutaneous and Venereal Diseases,* March 1886) relates a case of iodic purpura. He states that a man, 50 years old, consulted him for a debilitated condition of the system. About twenty years before he had had syphilis, for which he had only undergone a few months' treatment. He ordered him 15 grains of iodide of potassium three times daily. Under this treatment there was an amelioration of the symptoms. About three weeks later, Dr. Vidal was called to see the patient for a dropsical effusion, affecting the lower extremities as high as the knee, and the feet. Upon examination, he discovered a bright red macular eruption, ranging from the size of a pin-head to that of a split pea, persisting under finger pressure. He discontinued the iodide of potassium, and the purpuric eruption gradually faded away. On the medicine being again repeated, a similar eruption again appeared. After discontinuing the iodide, to resume it the second time, the purpura appeared for the third time.

5938. *Morrow on the Bullous Form of Iodic Eruption.*—Dr. Morrow (*Journal of Cutaneous and Venereal Diseases,* No. 4, 1886) states that a man about 50 years of age was admitted to the Nervous Hospital on Sept. 23, suffering from incomplete paraplegia. There was no history of syphilis or of any skin-disease except rosacea, evidences of which were present in the shape of a slight acneiform eruption. The patient was ordered a drachm of a solution of iodide of potassium (1 in 2) three times a day. This was stopped on Oct. 4, after he had taken 900 grains altogether. Three or four days after beginning the use of the iodide there was observed an erythematous condition of the face, with the production of vesico-pustules about the size of a small pea. About Oct. 1 an eruption appeared upon the backs of the hands. Under the continued influence of the medicine the dermatitis increased in intensity and severity, and the vesicles developed into bullæ of varying size. Some of the bullæ were punctured, yielding a reddish serum which was examined for iodine with negative results. The bullæ on hands presented a blue-black coloration. The patient continued to fail, and died Nov. 16. The necropsy showed the heart enlarged, and dilated on the left side; insufficiency of the mitral valve, and atheromatous deposits. The aorta was atheromatous. The lungs were œdematous; there were phthisical consolidation at both apices; no cavities. The kidneys were somewhat diminished in size, and heightened in colour; their consistence was increased; the surface was granular; the capsule adherent. The liver and spleen were normal. The direct dependence of the eruption upon the iodide of potassium in this case would seem to be conclusively established; first, by the appearance of the cutaneous phenomena within three or four days after commencing the use of the drug; second, by the intensification of all the eruptive features under its continued use; third, by the subsidence of the eruption soon after the drug was withdrawn; and fourth, negatively, by the absence of any other known exciting cause. It will be observed that while the iodide was discontinued on Oct. 4, the eruption did not attain its maximum development until four or five days later. In this case it is probable that, owing to the impairment of the integrity of the kidneys, through which iodine is principally eliminated, the drug accumulated in the system, and continued to produce its toxic effects upon the blood and nerve-centres for some days after its introduction. It is a well-attested clinical fact, that many of the severer forms of iodic eruption occur in patients who are found to be suffering from renal inadequacy and cardiac lesions. In the same journal (No. 5, 1886), Dr. Morrow states that the following conclusions in regard to this eruption may be formulated. 1. The bullous form of iodic eruption is comparatively infrequent. 2. It has for its seat of predilection the face, neck, fore-arms, and hands; exceptionally, it may occur upon trunk and lower extremities. 3. There seems to be no definite relation between the amount of the drug ingested and the production of the eruptive accidents; they may follow, indifferently, a single insignificant dose, or may appear only after the long-continued use of large doses. 4. In the former case, the incidental effects of the drug upon the skin depend upon idiosyncrasy; in the latter class of cases, the pathogenesis is more obscure. 5. The proneness of this eruption to develop in connection with cardiac and renal disorders, would seem to indicate that these conditions stand in the relation of a determining cause, rather than a mere coincidence. 6. The practical inference may be drawn, that caution should be observed in the administration of iodide of potassium, when these complications are found to exist.

5939. *Morrow on Arsenical Eruption.*—Dr. Morrow (*Journal of Cutaneous and Venereal Diseases*, No. 6, 1886) presented to the New York Dermatological Society a boy, aged 11, who in the latter part of February was suffering with chorea, and was put upon arsenical treatment, commencing with five drops of Fowler's solution, and increasing to sixteen drops three times a day. It was decreased in quantity, because it caused conjunctival and gastric disturbances, with puffiness of the eyelids and swelling of the ankles and the feet. Some time in March an eruption developed on the body and extremities, which always became intensified when the doses of the arsenic were increased, and began to disappear when the arsenic was temporarily discontinued. The lesion was erythemato-papular, the spots running together, and forming patches. It presented many of the appearances of a rubeolous eruption, and was extremely itchy. The skin was rough, and in some places desquamating; there was a greyish-brown, almost black, discoloration of the surface, especially marked over the abdomen and inner surface of the thighs. The dorsal surfaces of the hands were occupied by a coating of a greenish colour, cracked and fissured, resembling ichthyosis. The tongue was pale and flabby. The discoloration was evidently pigmentary, and could not be removed by friction with soap. Dr. Morrow also stated that a greyish or dark brown pigmentation was a characteristic feature of the prolonged use of arsenic. It was a question whether the discoloration was due to a chemical combination, or to an abnormal deposition of pigment. The discoloration was generally brownish, and in this case a peculiar feature was that it was greenish upon the hands and almost black upon the abdomen and thighs. The acute erythemato-papular eruption was the most common form of arsenical dermatitis.

5940. *Lavasser on Quinine Eruptions.*—Lavasser (*Thèse de Paris*, 1885; *Journal of Cutaneous and Venereal Diseases*, No. 6, 1886) states that quinine employed internally can at times produce eruptions. These eruptions appear suddenly, become general with great rapidity, and are most frequently fugacious. They may in certain cases be preceded by general phenomena of marked intensity. They recur with the greatest facility under the influence of a renewed dose of the medicine. The diagnosis may be obscured by the similarity of the scarlatiniform exanthem to that of certain eruptive fevers. The eruptions are extremely benign, and disappear generally in a day; exceptionally remaining several days. They can be explained either by the elimination of the quinine, through the sudoriparous glands, or by a special action which this drug has upon the circulation of the skin through the nervous system, and especially the vaso-motor nerves.

5941. *Riehl on a New Form of Tuberculosis of the Skin.*—Riehl (*Wiener Med. Wochensch.*, No. 43, 1885; *Monatsh. Prakt. für Dermat.*, No. 1, 1886) states that hitherto three forms of tuberculosis of the skin have been recognised—scrofulo-derma, lupus, and the miliary tuberculosis of the skin recently discovered by Jarisch. On account of the formation of rounded warty-looking patches, a new form, referred to by Riehl, is designated tuberculosis verrucosa cutis. It begins with an erythema, without infiltration in the erythematous patch. After several days pustules follow, which soon undergo the usual development—that is, they burst and dry. The surface of the affected part of the skin now becomes rough; and this quality is so much the more marked as the process goes on, until finally it is covered with warty excrescences, between which pustules and very minute pustular formations are found. Sometimes these patches inflame, in which case they become red and painful. After a time, absorption takes place to some extent, the secretion of pus ceases, the crusts become horny, the papilloma becomes aggravated, and the patches acquire the appearance of warts or papillary excrescences. After some months absorption takes place, the growth disappears, the affected parts become level, and in their place there remains a smooth superficial cicatrix, through which a dark coloured cutis is visible. The first formation of the patches was not observed, as all the patients who were treated were already suffering from the disease when they presented themselves, and the eruption was only observed on the borders of patches previously made. This disease has already been observed in twenty cases, twelve men and eight women. Strong persons, between nineteen and forty-five years of age, were affected. The eruption was confined to the hands and the forearms, but occurred mostly on the backs of the hands, the extensor surface of the fingers, and the palms. The symptoms of general tuberculosis were not found in any of the cases; but, on the other hand, all the patients had been brought into close contact with animal substances; for example, it occurred in cooks, butchers, coachmen, &c.

5942. *Hoffman on the Treatment by Muslin Plasters.*—The muslin plasters with a gutta-percha basis introduced by Dr. Unna are recommended by Hoffman (*Deutsche Med. Wochensch.*, 1885, No. 51; *Monatshefte für Prakt. Dermat.*, No. 3, 1886). First, he prescribes boracic acid plaster for ulcers of the leg and bed-sores. Secondly, he uses chrysarobin plaster, which has the advantage of confining the irritating action to the point of application. Third, zinc plaster is used for milder cases of dry circumscribed eczema. Fourth, zinc tar plaster for many severe forms of eczema. Fifth, naphthol plaster for affections attended with itching. Sixth, salicylic and salicylic mercurial and salicylic cannabis plaster for softening thickened layers of the epidermis. It is also used in sycosis, lupus, and severe cases of acne. Seventh, ichthyol plaster is recommended for rheumatic affections. Eighth, resorcin plaster is employed with good results in arthritis erratica acuta, in superficial frost-bites, and in in-growing toe-nails. Ninth, mercurial carbolic plaster is used in various inflammatory processes.

5943. *Joseph on a Hereditary Bullous Eruption.*—Joseph (*Monatshefte für Prakt. Dermat.*, No. 1, 1886; *Viertelj. für Derm. und Syph.*, Heft 2) observed in a woman, aged 37, who was well nourished and strongly built, bullæ and vesicles on the soles, the sides, and backs of the feet; also upon those parts of the trunk which were subjected to pressure by the corset. They were not accompanied with inflammation, and were not painful. They shrank and became dried in a few days. The patient was the subject of no other affection, although urticaria factitia was easily provoked. The interest of the case consists in the fact that two children, boys, of this woman suffered from the same affection. In them it was limited to the feet. In all three, the affection was worse in winter than in summer.

5944. *Dickeroff and Grawitz on Acne Contagiosa of the Horse and its Etiology.*—The authors (Virchow's *Archiv*, Band cii., Heft 1; *Viertelj. für Derm. und Syph.*, 1886, Heft 2) affirm that the disease of the horse, known as acne contagiosa, is dependent on bacteria. This affection is not circumfolliculitis, but is characterised by small abscesses, above and between the hair-follicles and the sebaceous glands, a condition which the authors consider to be analogous to the disease acne in man. In the horse it is generally in the position covered by the saddle, by which the contagion is conveyed from one horse to another. In the crusts, short bacilli and small cocci are found; and pure cultivations of the organisms rubbed into the skin of the horse, dog, sheep, calf, or rabbit provoke a similar affection to that of the horse. The bacillus is shown to produce acne, when rubbed into the healthy skin of the horse and other animals. If injected subcutaneously, it produces erysipelatous swelling, bleeding, and gangrene of the skin and fascia, and symptoms of general poisoning. When death results, the internal organs are found to be free from bacteria. The application of the bacillus to the uninjured skin of guinea-pigs, as a rule, causes erysipelatous swelling of the subcutaneous tissue, and death within forty-eight hours. When rubbed on the skin, no effect is produced. By subcutaneous injection, the symptoms of poisoning in guinea-pigs are acute. With mice, death follows from pyæmia, all the abscesses of the internal organs being found to be filled with swarms of bacilli.

5945. *Eichstedt on a Disease which followed Vaccinations at Rügen in the Summer of* 1885.—Eichstedt (*Berliner Klin. Wochensch.*, No. 44, 1885; *Viertelj. für Derm. und Syph.*, 1886, Heft 2) reports on a contagious skin-affection which was caused by vaccination at Rügen in 1885. The vaccinator had obtained from Stettin lymph from a healthy child. To this lymph, thymol and glycerine were added, and with this diluted lymph the first seventy-nine vaccinations were made, out of which seventy-six persons became infected with this disease. From these, further infections took place until a total of 320 persons were affected in the same way. Between the eleventh and fourteenth days after successful vaccination, small and rapidly enlarging vesicles formed in the neighbourhood of the vaccination-punctures. The contents quickly formed crusts, which, in from two to four weeks, left a deep red non-desquamating spot, which disappeared in a few weeks. There was only slight fever, and little itching or pain. Soon after the appearance of the vesicles a further eruption took place on the back, hands, face, neck, and ears of the patients. On the trunk, they occurred particularly on the loins and hips, and on the extensor surface of the legs and arms, and on the back of the feet. Very few came on the flexor surfaces. There were slight glandular swellings. The whole course of the eruption extended over from four to six weeks. When there were relapses, the disease lasted several months without injuring the constitution. The disease was undoubtedly infectious, the contagium being a fixed body, as it only spread by contact. Children were more exposed to infection than grown-up people, in whom also the symptoms were slighter. The author considers the disease to have been impetigo contagiosa. He found no fungus, and considers that the contagium must have been present in the glycerine which was added to the lymph.

5946. *Bourdoni on the Biological Qualities of the Microphytes of the Normal Skin.*—The author (*Fortschritt der Med.*, Nov. 5, 1886; *Viertelj. für Derm. und Syph.*, Heft 2) states that epidermic scales were taken from the scalp, from the cruro-scrotal region, from the interdigital spaces between the toes, as well as hairs from the head, chin, and pubes, and were cultivated partly in fluid and partly on solid soil. He found that five species of micrococci were produced, one of a citron yellow colour, which did not liquefy the gelatine. The second was of a dark orange colour, and liquefied the gelatine after three weeks. There were three colourless species, of which the first grew superficially on the gelatine, and had a waxy appearance, whilst the second formed irregular colonies, which liquefied gelatine rapidly. The last, and most interesting, species grows on gelatine in the form of white colonies, which follow the direction of the furrow made in inoculations. It does not liquefy the gelatine, and is only found on the roots of the hairs of the head, beard, pubis, and axilla, and is never found in epidermic scales. It resembles in all points the cocci described by von Sehlen, as specific for alopecia areata. Experiments on animals and general observations have convinced him that the cocci described by von Sehlen did not have the specific value which that author assigned to them. Secondly, he found an entirely harmless bacillus epidermidis, 3 millimètres long and 0·3 millimètres broad, which injured neither the skin of men nor of animals when rubbed on the surface. It grows on serum and potato in a characteristic form, forms spores on serum, and, contrary to the opinion expressed by Baltzer, has absolutely nothing to do with erythrasma. He finds the stinking bacterium graveolens in the interdigital folds grows quickly on gelatine and agar-agar, which it liquefies, and on which grows a greenish yellow, and on potatoes, and possesses no pathogenic qualities. He also succeeded in obtaining pure cultivations of a kind of sarcina, and an oval form of saccharo-myco-derm. [The above observations, so far as they relate to the existence of a coccus in the roots of normal hairs, are in direct opposition to repeated experiments of the reporter's, which will eventually be published.—*Rep.*]

5947. *Rheiner on the Pathological Treatment of Erysipelas.*—The author (*Virchow's Archiv*, vol. c., and *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885) made comparative anatomical researches in a case of traumatic erysipelas, and in two cases of erysipelas which had occurred during the course of typhoid fever, all three cases having proved fatal. In the first case, in addition to the ordinary signs of dermatitis, there were enormous accumulations of masses of cocci in the lymph-channels, and clefts of the subcutaneous connective tissue in the corium, the whole of the cocci being of the same size, and either single or double, or in chains. This coccus was not found in analogous parts of the typhoid erysipelas; but there were on the other hand rods which corresponded with Klebs' typhoid bacilli. Rheiner refers to the old difference which was made between traumatic and hydropathic erysipelas, and considers that these cases bear out the distinction.

5948. *Pietsch on the Complications and Sequelæ of Erysipelas.*—Pietsch (*Inaug. Diss.*, Berlin 1884; and *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885) observed, in Frerichs' clinique, a case of temporary paralysis of both upper and under extremities in erysipelas. A girl, aged 15, suffered after erysipelas on the left side of the face, from paroxysmal piercing pain. After four months there was suddenly paralysis of the arm, then of the leg, and at the same time diminution of sensation. Sensibility to the electric current remained. The paralysis disappeared after a year and a half.

5949. *Breda on Electrotherapy in Pruritus.*—Breda (*Giorn. Ital. delle Mal. Ven. e delle Pelle*, March-April 1885, and *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885), in continuation of three cases already reported, relates new cases of universal pruritus, in which he cured the complaint in from four to six weeks' treatment with the galvanic current. One electrode is placed upon the neck; the other between the feet in a bath.

5950. *Jousseaume and Megnin on a Case of Dermatobia Noxialis (J. Condot) at Paris.*—A man (*Bull. de la Soc. Zool. de France pour l'année* 1884, 1 et 2 parties, p. 11; *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885), who had travelled to Paris from Guatemala, observed that a furuncular swelling had developed on the middle and outer side of his left leg. It enlarged until it was about six centimètres in diameter. It was of a violet red colour, and showed on the top a small pointed papule with a fine opening, out of which some fluid exuded. Provoked by the lancinating pain, the patient one day squeezed the boil strongly, and ejected a white larva, which moved like a worm, and which lived several days in water. The length of the larva was 12 millimètres, and its breadth 5 millimètres. The swelling was due to the so-called *dasselboil*, and the worm that lived in it was the larva of œstrus hominis. The larva was in the second stage of development. The fully developed creature is a steel-blue fly, 15 millimètres in length; and there is no doubt that the larva had entered the patient's skin in Guatemala, the insect living for a long time in the skin.

5951. *Costa on Chrysarobin-traumaticin.*—Costa (*La Salute Italia Med.*, 1885; and *Viertelj. für Derm. und Syph.*, Heft 3 and 4, 1885) recommends chrysarobin-traumaticin for psoriasis, pityriasis versicolor, and lupus erythematosus. He has used with excellent result sulphur-traumaticin in acne. He also found that simple traumaticin, by acting as a compress, gave good result in three cases of epididymitis. The observations were made on patients in Campana's clinique. G. THIN, M.D.

5952. *Myrtle on a Case of Prurigo.*—In the *Brit. Med. Jour.*, June 1886, p. 1213, Dr. J. A. Myrtle describes a typical case of prurigo. The patient was a woman aged 54, who had always enjoyed perfect health until January 1884, when the arms and inner surfaces of the thighs commenced itching, and she felt hard little lumps in the skin. After trying various remedies without benefit, the patient was sent to Harrogate in June 1884. When seen by Dr. Myrtle, her nervous system was completely broken down. The prurigo was situated on the upper arms to four inches above the elbow-joints, and was worse on the flexor surfaces. The legs were not so bad as the arms, but were very typically affected from the knees to the upper third of the thighs. On passing the hand over the skin, it produced a sound like a short-haired brush, and felt like a nutmeg-grater. The author ordered her to take the sulphur water, before breakfast, in purgative doses, and the magnesia water at noon, as a diuretic, with a strong sulphur-bath every second day. The magnesia water was also used as a lotion whenever the patient wished. In six weeks the arms were well, and the legs nearly so. The patient then returned to her work, and a year afterwards was quite well, except in some places the skin was thickened. RICHARD NEALE, M.D.

REVIEWS.

ARTICLE 5953.

Manual of Pathological Histology. By CORNIL and RANVIER. Second Edition. Re-edited and Enlarged. Translated with the approval of the Authors by A. M. Hart. Vol. II. Special Pathological Histology. Lesions of the Organs. Part II. London: Smith, Elder, & Co. 1886.

THE publication of Mrs. Ernest Hart's translation of the second part of the second volume of Cornil and Ranvier's Manual cannot fail to give an impetus to the study of pathological histology in Great Britain. In fulness and clearness, and in wealth of illustration, the second edition of this manual occupies an unique place in medical literature. Lecturers and teachers must have already found the work indispensable to them; but it is desirable that students and practitioners should recognise its value in enabling them to bring their knowledge abreast of the latest progress in this department of medical science. In the interests of the next generation of medical men, we should be glad to see this work widely used, as a text-book.

The present volume continues the description of the histological changes in the digestive system, beginning with the liver, and then treats successively of the hæmatopoietic glands (the spleen, the thyroid gland, and the suprarenal capsules), the genito-urinary organs (including the normal and pathological histology of the mamma), and concludes with a very long and singularly complete section on the skin.

After an explanation of the normal histology of the liver, the description of the morbid changes in that organ is introduced by an account of its general pathological anatomy, beginning with remarks on the morbid changes found in the liver-cells. It is suggested that it is due to the softness of the liver-cells that the entire liver may become modified in form by an abdominal tumour, by ascites, or even by tight lacing. The form of the cells is also often modified in cardiac and pulmonary diseases by the increase of blood-pressure in the inferior vena cava. Later on, if pressure continue, they become granular, and more and more thin and atrophied, leading to the condition which has been called *red atrophy.*

The changes in the liver-cells which occur in acute diseases are minutely described, and there follow some instructive paragraphs on the changes in the cellulo-vascular tissue of the organ.

In the chapter on congestion of the liver, the causes and consequences of that condition are explained with a brevity and lucidity that commend themselves to the busiest practitioner; after which the 'cardiac liver'—the lesions of red atrophy—receive full consideration. The various forms of hepatitis—of which three principal kinds, parenchymatous, suppurative, and interstitial hepatitis (cirrhosis) are distinguished—are treated with great fulness, and illustrated by excellent engravings. The numerous woodcuts illustrative of cirrhotic changes are especially instructive. Fatty degeneration, amyloid degeneration, and tumours, are equally fully discussed.

Section 4 of the volume is introduced by a chapter on the kidneys, in which the impress of M. Cornil's original researches is conspicuous. As in the chapter on the liver the remarks on the general pathological histology of the kidney are introduced by a description of the alterations found in the epithelial cells in inflammatory conditions, and as the effects of impaired nutrition and infiltration with various substances.

The method which has given the authors the best results in preparing hyaline casts for examination is described as follows. 'After allowing the sediment of the urine to be deposited in a glass, about a cubic centimètre of it is removed by a pipette, and is thrown into a tube and mixed with an equal quantity of a 1 per cent. solution of osmic acid. Twenty-four hours afterwards the tube is filled with distilled water, shaken, and the deposit allowed to settle. In this deposit all the casts will be found to have been stained a blackish-brown colour, varying in intensity. The most delicate casts, cylindroids, if present, are clearly seen, though these are only of a pale grey tint. The hyaline casts are almost or quite black. The form of these various casts is perfectly preserved, for the osmic acid has fixed and coagulated them at the same time that it stained them.'

In describing the effects of congestion of the kidney, the effects of ligature of the renal vein and of acute and slow poisoning by cantharidin respectively are separately explained, the two latter conditions being illustrated by engravings. The effects of artificial hæmoglobinuria, and a description of the method of producing it in animals, follow next, and the way is prepared for making clear to the reader the effects of renal congestion in man, consecutive to malarial and to cardiac disease, and of the changes due to infarctus of the kidney. Nephritis is treated at length under the heads of acute (diffuse or temporary), diphtheritic, scarlatinal, parenchymatous (chronic), systematic, saturnine, gouty, interstitial, bacterial and suppurative, and is illustrated by no less than some sixteen engravings.

The concluding section of the volume treats of the normal and pathological histology of the skin, ten pages being devoted to the former, and a hundred and six to the latter. During the last ten years there has been much of original work done in France, and especially in Paris, in connection with the pathological histology of the skin, the combined effects of what may be termed a revival at the St. Louis Hospital, and of the activity which has characterised Ranvier's laboratory at the Collége de France having produced not a few results which are important, and which may be considered to be more or less permanent. For the first time, all this work is brought together in a complete form, and with the greatest fulness and detail, in this volume. The section will prove a fertile mine in which compilers of works on dermatology may dig for many a year to come.

M. Cornil's studies and investigations entitle him to the position of an authority on the subject of microbes, and it is interesting to observe that he ascribes to the action of organisms diseases in which their specific influence is not yet universally accepted. The authors have verified the existence of bacteria as the active cause in erysipelas. They remark that 'in preparations of erysipelatous skin, the bacteria are seen in groups in the interfascicular spaces, in the lymphatics, and in the subcutaneous adipose tissue. In the latter, it may be seen, that the bacteria are in the cells themselves, and are located in the protoplasm which surrounds the fat.' Engravings are given, showing bacteria in preparations from a recent patch of erysipelas of the scalp, consecutive to erysipelas of the face.

The 'bacteria of pemphigus,' as drawn by Gibier, are so far accepted that an engraving in which they are reproduced is given.

The 'microbes of variola were first demonstrated by Weigert ten years ago,' and are fully accepted by the authors, who state that 'they are seated in the cavities of the Malpighian layer and along the filaments which divide it. They are in the form of slightly ovoid granules isolated or associated together. They are also present in the peripheral parts of the pustule, and on the surface of the papillæ.' They are shown in an engraving of a section of the Malpighian layer in variola.

The bibliographical references at the end of the volume are voluminous and complete.

The translator and the publishers are to be congratulated on the completion of this work, to the importance of which they have both done ample justice, the numerous engravings being excellently printed, and the translation being fluent, clear, and in an idiomatic English which shows no trace of the original French.

ARTICLE 5954.

The Refraction and Accommodation of the Eye. By E. LANDOLT, M.D. Translated by C. M. CULVER, M.D. Edinburgh: Young J. Pentland. 1886.

WE have no hesitation in saying that, since the appearance of Donders' great work, no book upon this important branch of ophthalmology has been published which can at all compare with the work before us. It is not, and it does not profess to be, a complete treatise upon all matters connected with refraction; it contains less of the mathematical and more of the clinical element than Donders' book, and will, we believe, on that account, to a great extent, replace in this country the latter as a book of reference. Donders did much to raise this branch of ophthalmic surgery from pure empiricism to an exact science; but the later tendency has been rather to forget that in dealing with living organisms there is always the personal equation to be taken into account, and that, although we may be able to measure the refraction of the eye with mathematical precision, something more is required to make a successful practitioner. This error is constantly avoided by our author; and, in both the theoretical and the clinical portions into which the book is divided, we are constantly reminded of the bearing of theory upon practice. The following quotation, from many which might be selected, will illustrate our meaning. 'It does not suffice to know the action of lenses from every point of view, and the workings of the visual organ. We must know how to individualise cases; that is to say, we must take into account the state of refraction and accommodation, that of the muscles of the patient's eyes, the particular purpose of his wearing glasses, his peculiar habits, and many other circumstances to which attentive observation teaches us in practice to attach importance. It is impossible to make rules which shall relieve the oculist from the necessity of thinking.' What one may call the common-sense element of the book is well shown in the section dealing with the correction of anisometropia.

As a rule the theoretical portions, which are often necessarily rather intricate, are very clearly explained and rendered available for those who are not conversant with the higher mathematics; the explanation on p. 4, of the connection between the alteration in the velocity of light on entering a more refracting medium, and its refraction, being particularly lucid. We think, however, that the statements (p. 382) of the different effects produced by convex lenses at different distances from the eye might have been simplified, and at the same time been rendered more scientific, had they been reduced to a formula. An eye in any state of refraction (passive or active) is adapted for a certain point (f'), which lies either in front or behind it. If a lens is to bring rays from any other point to (f), to a focus on the retina, while the condition of the eye remains the same, it must have such a focal length (F), and be so placed, that f and f' shall be conjugate foci to each other. The distance of any one of the three points from the lens can therefore be found by the simple formula $\frac{1}{F} = \frac{1}{f} +$ (or —) $\frac{1}{f'}$.

We think that it is a matter for unmixed regret that Dr. Landolt should have introduced the term 'Koroscopy' for the already over-named 'Shadow-Test.' It is harsh in sound, and conveys no idea of the nature of the test. He objects to any name which indicates that the shadow, and not the light, is the test-object. We think that this is unreasonable; the distinctive feature of the test is that under certain conditions the light leaves a portion of the visible area, which is therefore thrown into *shadow*. We think, therefore, that 'Shadow-Test,' or 'Skeioscopy,' which was suggested by Mr. Tweedy for those who prefer foreign compounds, would have been decidedly better.

It seems a pity that three definitions should have been given of emmetropia on p. 121, especially as the second one would include moderate degrees of hypermetropia.

In several respects, the author's theory and practice differ from those adopted in this country.

He takes the modern view that the amblyopia, often met with in a squinting eye, is primary and not secondary; but the question lies rather on the confines of the subject with which the book deals, and is, therefore, not discussed very fully. In performing tenotomy, Dr. Landolt does not use a strabismus-hook, but raises the tendon by seizing it with forceps, and then passes one blade of the scissors beneath it. For paralysing the accommodation of children, the employment of atropine in a solution of the strength of 1 to 4,000 or 2,000 (about $\frac{1}{8}$ or $\frac{1}{4}$ grain to an ounce) is recommended; this is so dilute that we are tempted to consider it as a misprint. The full correction of hypermetropia for distant vision is not recommended, even when the patient has diminished amplitude of accommodation. It is assumed that for a hypermetrope the constant use of two-thirds of his total accommodative power is the normal condition, and the correction both for near and distant vision is calculated upon this basis. Thus a hypermetrope of 5 D, having an amplitude of accommodation of 3 D, would be ordered 3 D (5–2) for distance; while for seeing at 33 centimètres (which would require a positive refraction of 8 D) he would be given 6 D (8–2). We much doubt, also, whether the following rule, which is emphasised by being printed in small capitals, would meet with general acceptance. 'A myope must be prohibited from wearing concave glasses for any distance at which he can see without using accommodation.' It may be gathered from this, that Dr. Landolt attributes to accommodation an important part in causing an increase in the myopia. He certainly draws attention to a point which is of importance, and which, we believe, has not previously been noticed; namely that when, as in high myopia, objects are held very close to the eye, a very slight alteration in the distance necessitates a much greater change in the accommodative effort than is the case at greater distances. It seems very probable that frequent alterations in the accommodation may have a deleterious influence.

There are not many omissions of importance, but the absence of any description of a cylindrical lens is an oversight. We should have thought that Culbertson's prisoptometer deserved a mention, if only from the fact that it endeavours to utilise a principle hitherto, we believe, not adopted in any test. In ascertaining whether binocular *vision* exists, when binocular *fixation* is present, no mention is made of Snellen's letters of complementary colours, viewed through similar glasses, although this, as will be admitted by anyone who has used it, is a most valuable test. Perhaps the introduction of sample test-types would have been an advantage, but that is a matter of opinion.

The translation has been done in a clear style, well suited to the subject; 'parallelly' and 'clinician' are the only words which we note as having a Transatlantic sound.

The illustrations are fairly numerous, and, with the exception of the chromo-lithographs, which are rough and exaggerated, they are excellent. The type and general style of the volume leave nothing to be desired, and we notice but few misprints: on p. 225, line 14, '*weakness*' should be '*acuteness*;' on p. 495, line 15 and 16, we presume the figures 9 and 11 have been transposed.

W. ADAMS FROST.

ARTICLE 5955.

On Some Common Injuries to Limbs, their Treatment and After-treatment, including Bone-setting (so-called). By EDWARD COTTERELL, M.R.C.S., L.R.C.P. London: H. K. Lewis. 1885.

How we Treat Wounds To-day. A Treatise on the Subject of Antiseptic Surgery, which can be Understood by Beginners. By ROBERT J. MORRIS, M.D., late House-Surgeon to Bellevue Hospital, N.Y. New York and London: G. R. Putnam's Sons. 1886.

Elementary Bandaging and Surgical Dressing, with Directions Concerning the Immediate Treatment of Cases of Emergency. By WALTER PYE, F.R.C.S., Surgeon to St. Mary's Hospital, London: Trübner & Co., Ludgate Hill. Bristol: John Wright & Co. 1886.

A Manual of Bandaging, adapted for Self-Instruction. By. C. HENRI LEONARD, A.M., M.D., Professor of the Medical and Surgical Diseases of Women, and of Clinical Gynæcology, Michigan College of Medicine. Second Edition. London: Baillière, Tindall, & Cox. 1886.

THESE works may be conveniently reviewed together, as each deals with the treatment of injuries that are met with in ordinary practice. They present instances of extreme specialism in surgical literature. The range of the subject in each is much restricted; no addition is made to our present knowledge; and in the last three works the authors endeavour merely to give simple statements of such details of treatment as may be found in any good modern textbook of surgery. There must, we assume, be some demand for books of this class; and, indeed, in one of these instances we have before us a second edition, revised and enlarged. Still, it may be doubted whether much good can be done to students by written instructions on points of surgical treatment, which are best imparted by direct practical instruction, and which, when once thus imparted, are seldom forgotten.

Mr. Cotterell's book is devoted mainly to the treatment of such cases as frequently fall into the hands of bone-setters. The author, in the hope of eradicating the popular faith in these practitioners, directs the attention of the profession to the necessity of a careful after-treatment of common injuries to the limbs, and in chapters on 'what we have learnt from bone-setters,' and 'on the harm that bone-setters do,' gives a clear summary of the views and experiences of Sir James Paget and Dr. Wharton Hood. The chapters on injuries of the upper and lower extremities, though marked by no special novelty, will be found clinically useful, as the author has evidently studied with much care and industry the treatment of a class of lesions which, though seldom met with in hospital practice, are often a source of trouble to the general practitioner.

Dr. Morris, who is a staunch supporter of antiseptic surgery, gives in his small work on *How we Treat Wounds To-day* full instructions, for the use of beginners, on all the details of the Listerian method in its application to the treatment of wounds and open surfaces. This book, which unfortunately is much marred by an unusual and very spasmodic style of writing, shows that the author is well acquainted with his subject. It is one of the class of which Mr. Cheyne's manual of the antiseptic treatment of wounds is an excellent example, and, though less scientific in tone, is not unlikely to prove useful.

The little book, by Mr. Walter Pye, on '*Elementary Bandaging and Surgical Dressing*, is a re-issue adapted to the use of junior students, and also of surgical nurses and probationers, of the well-known work on *Surgical Handicraft*. This smaller work is full of information on all the details of minor surgery, and on the treatment of shock, of asphyxia from drowning, and of poisoning. It will, we think, be found useful by ship-surgeons, and by those who might be called upon to treat cases of serious injury under conditions in which they are deprived of professional advice and assistance. The author has done his own part well, but we cannot congratulate him on the illustrations in this work. This, however, seems to be a not uncommon failing in works on minor surgery that have been published in this country and in the United States, although the usefulness of books on bandaging and surgical manipulations must depend to a great extent on the clearness and correctness of their drawings. Mr. Pye's book, and also Dr. Leonard's *Manual of Bandaging*, contrast very unfavourably in this respect with continental works of a like kind, especially Esmarch's *Handbuch der Kriegschirurgischen Technik*.

Dr. Leonard's manual, which has reached a second edition, and has been enlarged by the addition of fully one-fourth of new matter, contains full and clear information on every form of bandage in modern use, and will be found a good work of reference on this subject of practical surgery.

Article 5956.

Diseases of the Mouth, Throat, and Nose, including Rhinoscopy and Methods of Local Treatment. By Dr. Philip Schech, Lecturer in the University of Munich. Translated by R. H. Blaikie, M.D., F.R.C.S.E., Surgeon to the Edinburgh Ear and Throat Dispensary. With five Illustrations. Edinburgh: Young J. Pentland. 1886.

When a book appears on a subject dealt with in the ordinary manuals of medicine or surgery, it may justify its advent in various ways. It may set forth its particular department of knowledge with a fulness unattainable in any work short of an encyclopædia. Or, the author having specially studied the diseases comprised in the treatise, may have arrived at views touching their etiology, pathology, clinical relationships, or treatment, more or less at variance with the generally received opinions. Or, finally, new methods of treatment may be so complicated, or may require such special instruments, instruction, or training, as to deserve, for satisfactory exposition, illustrations or an amount of space that could not be given in an ordinary text-book of general medicine or surgery, without disfiguring the relative proportions of the different parts of the book.

On what ground now, we may ask, is the work before us likely to establish a claim to public favour? A short account of its contents will perhaps afford the best answer.

Of the three hundred pages of which this neatly got up volume consists, nearly seventy are devoted to diseases of the mouth, nearly a hundred and seventy to diseases of the throat (meaning diseases of the pharynx), and eighty-five to diseases of the nose. An appendix and an index make up the remainder. Even after due allowance is made for the large spacing between the well-printed lines, it is obvious that considerably more space is accorded to the maladies dealt with than is given, or, in fact, than could be given, in a text-book of general medicine or surgery.

Of what quality is the matter set before the reader? There is a certain amount of freshness and of literary charm in the presentation of the facts, that makes the descriptions pleasant and easy reading. The author writes with a facile pen, and, as a rule, is happy in the selection and arrangement of the points to be borne in mind by the practitioner in examining and in treating a case. Occasionally, however, too much knowledge on the part of the reader appears to be taken for granted; or perhaps it would be better to say that the author sometimes, instead of stating the point precisely, talks about it. An example will show what is meant. In the section on Diseases of the Mouth appears an article on 'Angina Ludovici, or Cynanche Cellularis Maligna.' Under this title, the author writes as follows.

'It appears spontaneously without apparent cause, after cold, or after a fall or blow on the under jaw; sometimes it follows an infectious disease, and must then be considered as metastatic. I saw such a case once in a child six months old, in whom, without doubt, the cause was suppuration of the sublingual gland. The skin between the halves of the lower jaw, as far down as the hyoid bone, or even the sternum, is generally extensively infiltrated, and there are also well-marked febrile and gastric symptoms. The skin is also reddened and very painful, and the movement of the lower jaw is completely in abeyance. On account of the pressure of the ever-increasing swelling, the tongue is forced against the hard palate, so that speech, eating, and swallowing become impossible. In well-marked cases, stenosis of the larynx results from œdema of the mucous membrane, or from compression; and, on account of pressure on the jugular veins, giddiness, tinnitus, and delirium may occur. The course of the disease is generally protracted. The swelling may certainly resolve; this, however, seldom happens; usually abscesses form after a longer or shorter time, which are opened by the surgeon, or burst of their own accord, and discharge, either into the mouth or externally, thick sanious pus and bits of dead cellular tissue. Fistulous openings, and scars, which interfere with the movements of the neck, not infrequently remain.' The prognosis and treatment are then briefly touched upon. The account just quoted occurs, as above remarked, in the section on diseases of the mouth; but the mouth is a big place, and who could tell merely from the description what the seat of the disease is, how it begins, or what is the pathology of it? The name, it might be replied, helps. Well, the first name is more generally met with in connection with pharyngeal maladies, and the alternative title, though descriptive, is hardly definite enough to serve the purposes of a definition.

Pathology is a point on which, as a rule, the author is decidedly sparing of information. Possibly, however, many readers will not be disposed to quarrel with him on this account. The five illustrations that the volume boasts represent the rhinoscopic image, and various instruments; two of the figures being devoted exclusively to the author's own instruments.

With the exception of the weak spots just indicated, the work is really a good, instructive, and trustworthy volume. Diagnosis is, as a rule, treated very concisely and satisfactorily; and the sections on treatment are, perhaps, the strongest in the book. In an appendix, the translator, who in other respects also has done his task well, has added some notes of considerable value.

William R. Huggard, M.D.

Article 5957.

An Introduction to the Use of the Laryngoscope. By Archibald E. Garrod, M.A., M.B.Oxon., M.R.C.P. London: Longmans, Green, & Co. 1886.

This little book, octavo in form, and containing fifty-four pages of large print, is intended simply to help persons who wish to acquire the knack of using the laryngoscope with readiness. The various trifling difficulties that puzzle beginners, and act as stumbling-blocks to success, are very clearly pointed out. These difficulties are trifling, not because they are unimportant, but because they can be easily overcome as soon as their origin is recognised. In educating one's muscles, in acquiring new co-ordinated movements, progress is greatly facilitated by having clearly in one's head not merely the final result to be attained but the intermediate steps by which the ultimate stage is to be reached. To give this instruction has been the aim of the author; and it must be acknowledged that he has succeeded in accomplishing his design. It is not improbable that a little work of this kind will do more to popularise the use of the laryngoscope than would a more complete treatise describing in detail the diseases the instrument reveals. As soon as the practitioner has so trained his hand and eye that he can satisfactorily inspect the interior of the larynx, it will not be long before he recognises the morbid condition he sees.

The chapter on the laryngeal picture recounts succinctly, yet fully enough, the parts brought into view by the mirror. The application of remedies to the larynx, laryngeal surgery, rhinoscopy anterior and posterior, and a synopsis of the appearances in the chief laryngeal diseases, form each the subject of a special chapter.

Dexterity with the laryngoscope is, indeed, only to be acquired by practice; nevertheless, a few hints may aid considerably in leading the student to the goal.

The reviewer may mention a device that he has found of great service, which, no doubt, has saved some discomfort to the long-suffering throats of those well-trained patients who do much to allow beginners to instruct themselves. In default of a phantom larynx (Ischenschmid's, for example) he has fastened a kid glove on a pasteboard tube about two inches long and about an inch and a half in diameter, and has then 'laryngoscoped' the fingers. With this very inexpensive instrument, the greatest difficulties of laryngoscopy may be overcome. The most elementary obstacle is the management of the light. Then comes the right way of holding the laryngeal mirror; next the interpretation of the picture; and, finally, the introduction of instruments with the free hand. The intelligent observer will soon learn for himself the points of difficulty and the solution of them.

In conclusion, it has only to be said that this little book is well calculated to fulfil its purpose.

William R. Huggard, M.D.

Article 5958.

The Medical Digest, or Busy Practitioner's Vade-Mecum. By Richard Neale, M.D., Lond., Member of the Dutch Medical Society of Batavia, Java. Second edition, with Appendix. London: Ledger, Smith, & Co. 1886.

This remarkable work, which was first published as the seventy-fifth volume of the New Sydenham Society's publications in 1877, has now been re-issued with the first appendix, which brings the digest down to the early part of the present year.

The labour involved in compiling this work is as much a matter for surprise and respectful admiration, as that which has excited the astonishment of hundreds of generations in the pyramids of Egypt and similar enterprises. It is difficult and even impossible to overrate the importance of a book like this. Only those who have exhausted their time and their patience in an endeavour to fish out, from the chaos of medical journalism, an article or an indication which they vaguely remember to have seen in years gone by, can really appreciate to its full extent the saving of labour and waste effected by a carefully arranged digest such as the one before us.

The wealth of information contained in the ephemeral medical literature may be likened to that contained in the library of the British Museum, which would be practically unavailable were it not for the admirable indices, arranged to meet every conceivable inquiry which enable the would-be reader to lay his hand without delay upon the volume containing or supposed to contain the desired information. What past generations of officials at the British Museum have done for the heterogeneous collection in their keeping, Dr. Neale has done for the details of medical science and practice.

Not only are unexampled facilities thus afforded to the literary man or author in embryo to make himself acquainted with the history and progress of his subject or subjects, but the hardworked practitioner, unable, it may be, to keep abreast of his times owing to the scant leisure at his disposal for self-improvement, can in an extremely short space of time make himself master of the suggestions and alternative methods of treatment to which general experience may have given birth, bearing on any particular case as to which the medical attendant feels in need of help.

By the publication of appendices from time to time, the work as a whole can always be kept up to date, and the utility of the earlier volumes be left unimpaired.

The collection comprises selections from all the best known journals, and, when necessary or desirable, from certain minor and foreign periodicals. In future, the *Medical Press and Circular* is to be included in the list of journals referred to. The author calls particular attention to the valuable index, which forms, as it were, a keystone to the whole work. This index contains nearly 10,000 references, while the book itself comprises 120,000 entries. The type is good, and is clearly printed on substantial paper, and the publishers may be congratulated on having acquitted themselves very satisfactorily of a difficult task.

Alfred S. Gubb.

Article 5959.

On the Disorders of Digestion; their Consequences and Treatment. By T. Lauder Brunton, M.D., D.Sc., F.R.S., F.R.C.P., Assistant Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital. London: Macmillan & Co. 1886.

The lectures on the *Disorders of Digestion*, which were so well received when delivered before the Medical Society of London, are now published in book form; and to them are added various other miscellaneous essays on ailments connected with the teeth, headache, &c., the uses and administration of fat, the physiological action of alcohol, &c.; constituting, in fact, a collection of the many valuable papers contributed by Dr. Lauder Brunton to various journals, or read by him at societies. To those who appreciate and admire the author's cogent and yet racy style of writing—and they are many—the present volume will be very welcome. The reader will thus be enabled to peruse, within the limits of a single volume of respectable dimensions, a series of articles which would have necessitated a long and tiresome search to find elsewhere, while he will be enabled to re-read or refer to articles which are no longer new to him.

The author is careful to point out that many of the papers, having been read at different times and before different audiences, overlap each other to some extent. Hence the book is not intended to be read through *seriatim*, although the repetition of the same ideas, bearing as they do on important considerations, is not devoid of value as tending to impress the reader with a sense of their importance.

The Lettsomian lectures, with which the volume commences, were written for the most part before the papers which follow them; and it is interesting to watch the gradual evolution of ideas in the author's mind until they appear in their full development in these admirable lectures, which mark an epoch in our knowledge of the functions of digestion and assimilation.

The author begins with 'man as a cooking animal;' and, after a little historical sketch, according to which roasting would appear to rejoice in a much greater antiquity than any other form of cooking, he proceeds to show what is the influence of cooking on our health and happiness.

Allusion is made *en passant* to the remarkable effect of mastication, sucking, and swallowing on the cardiac action and circulation; and the information given as to the stimulant effect obtained by children from sucking their thumbs, may seem to point a moral as well as to adorn a tale. Dr. Lauder Brunton speaks in humorously eulogistic terms of his experience of a 'City dinner.' He went, harassed and irritable, convinced that the City Companies were wasteful bodies, who squandered money that might be employed for useful purposes, and ought to be abolished; but he came away, *horresco referens*, with an angelic temper, fully convinced that they had their utility and ought on no account to be interfered with. To ensure this enviable result, 'the dinner must be well cooked and the wines must be thoroughly good,' to which his readers will probably say 'Amen.'

Within this festive envelope is contained a vast amount of useful information which will be found of the greatest use, not only to the medical attendants of those privileged mortals who attend City dinners, but to the practitioner in every class of society. The science and practice of digestion affects everyone, and dyspepsia is no respecter of persons. The stomach which is at one time a gaswork and at another a vinegar manufactory is unfortunately a tolerably common phenomenon, and much is to be gained by an insight into the chemico-physical causes at work in its production.

We can cordially recommend the volume, as one which combines much practical and technical information with sound common sense. It is clearly printed on good paper, and is moreover of a convenient size. ALFRED S. GUBB.

ARTICLE 5960.

Science and Practice of Surgery. By FREDERICK JAMES GANT, F.R.C.S., Surgeon to the Royal Free Hospital. Third Edition. London: Baillière, Tindall, & Cox. 1886.

THIS consists of two handsome volumes, and is a bulky work. It has not met, we think, with a very extensive popularity among students in the metropolis, but it has evidently had its large circle of readers and admirers. It possesses certain features which are peculiar. It is written in a colloquial style, and is diffuse rather than terse. The author is talking to the reader, and is not limited to time or space, and there is a charm in this if time be not a great object.

There is a long and characteristic preface, from which one learns that special attention has been paid to certain subjects, and that some well-known names have contributed to the work to a slight extent. There are between eight and nine hundred engravings, and a large number of these are original. Many of them are selected from cases occurring in the author's practice, or from hospital museums.

The subjects treated in the different chapters appear to have been generally brought up to the present level of surgical knowledge; but this is not always the case, and we may notice that the chapters on the practical and operative procedures are superior to those upon the more general subjects. In the article on hydrophobia, no reference is made to Pasteur's observations. In that on pyæmia and septicæmia, the pathology is not clearly put; in that on tetanus, too, the pathology is not satisfactory. Tubercle and scrofula, too, are not as clearly given as one might expect, but the account is very diffuse. Syphilis is, in the same way, not satisfactorily given. But we recognise that an immense amount of information is contained in these volumes, and the more recent advances in surgery are carefully included in the text. The chapter on cerebral surgery is very good and well illustrated.

W. W. WAGSTAFFE.

ARTICLE 5961.

Regional Surgery, including Surgical Diagnosis. Part III. The Abdomen and Lower Extremity. By F. A. SOUTHAM, M.A., M.B., F.R.C.S. London: J. & A. Churchill. 1886.

THIS is the completing part of the work, and contains chapters upon the surgery of the abdomen, the abdominal viscera, the urethra, bladder, and organs of generation, the perinæum, groin, and lower extremity. It consists of short and very clearly arranged notes, with copious references to other sections and paragraphs, and the information given is very practical in the way of diagnosis. It would be difficult to find any work in which surgical diagnosis is more clearly given, and the student or practitioner who possesses the book will owe a debt of gratitude to Mr. Southam for the labour he has expended over it and the success which has attended it. It is an independent work, and does not give more than the sum of the author's experience and opinions. No reference is made to other authors, but the work is all the clearer for this, and it must be acknowledged that the symptoms selected and the means of diagnosis given are usually excellent.

We should have been glad to see in such a work more instruction as to the method of manipulating a limb or part; but it is evident that it is to signs and symptoms that the author wishes to draw attention, rather than to the method of examination. The volume is one of peculiar clearness of arrangement, and we have looked carefully through it with more and more admiration for its thoroughness, method, and fulness. Mr. Southam is to be congratulated upon the appearance of a peculiar textbook which will be of great use, and will add to his reputation as an observant clinical surgeon and as a sound and methodical clinical teacher.

W. W. WAGSTAFFE.

ARTIFICIAL CUCAINE.—Herr Merck (of Darmstadt) has succeeded in preparing an artificial cucaine which possesses all the properties of the natural product. Benzoic ecgonine is treated with methyl iodide and a certain quantity of methylic alcohol at 100° Cent. Benzoic methyl-ecgonine is thus obtained, and this substance is cucaine.

NOTES ON BOOKS.

Article 5962.

Transactions of the Obstetrical Society of London. Vol. xxviii. Part II., for March and April.

This fascicule contains notes of the dissection of female twin fœtuses, joined together by the face and thorax, some notes by Dr. Campbell Pope on a case of gestation in one horn of an uterus bicornis unicollis, together with papers by Drs. Barbour, Lewers, and Griffiths, &c. Dr. Matthews Duncan contributes a careful dissertation on 'Contraction, Inhibition, and Expansion of the Uterus.'

Article 5963.

The International Journal of the Medical Sciences. July 1886. London: Cassell & Co.

The number for the current quarter of this excellent publication is well up to the usual high standard. It contains a series of papers by the best known men on both sides of the Atlantic, including a well illustrated paper by Dr. Byrom Bramwell on Ulcerative Endocarditis; on Scarlatinal Nephritis, by Dr. Atkinson, of the University of Maryland; on Clinical Groups of Tumours, by Mr. Jonathan Hutchinson; and an exhaustive contribution from the pen of Dr. Senn, of Chicago, on the Surgery of the Pancreas. The subjects are full of interest for the scientific observer, and are treated in a manner worthy of the position their writers hold in the professional world.

Alfred S. Gubb.

Article 5964.

Acute Nephritis in Lambs. By W. Roger Williams, F.R.C.S. London: John Ball & Sons. 1886.

In this paper, which was read before the Pathological Society last April, Mr. Williams describes an epizoötic nephritis, which has proved very fatal to lambs at Dunchurch, near Rugby. He can find no evidence of any acute febrile disease, and regards the nephritis as a primary affection. It seems that the ewes are freshly imported from Scotland for breeding, and that one ram is allowed to serve fifty ewes. He therefore suggests that the great climatic change and the insufficiency of spermatozoa account for the disease. While these circumstances would account for weakly offspring, they do not seem to touch the exciting cause of this curious malady.

Robert Saundby, M.D.

NEW PREPARATIONS.

SCHERING'S CRYSTALLISED HYDROCHLORATE OF CUCAINE.

We have received from Messrs. Zimmermann, of Mincing Lane, E.C., a specimen of Schering's crystallised hydrochlorate of cucaine, prepared at the Chemische Fabrik auf Aktien, Berlin. This salt is in flat shining micaceous crystals, very different from the acicular crystals or amorphous powder of the kinds most generally found in the market. It does not discolour concentrated sulphuric acid when added to it, nor will it precipitate a solution of permanganate of potassium. This salt is alleged to be anhydrous, and therefore proportionally stronger than the varieties containing more or less water of crystallisation. The price at which it is sold will certainly ensure attention to this product.

KEMMERICH'S EXTRACT AND PEPTONE OF BEEF.

Messrs. Berk & Co., of No. 1 Fenchurch Avenue, have forwarded us samples of Dr. Kemmerich's extract of beef and peptone of beef. The extract of beef is of a rich brown colour, slight smell, and with an agreeable flavour. It is readily soluble in boiling water, forming, on the addition of suitable quantities of salt and pepper, an exceedingly agreeable drink, free from the objectionable qualities which often negative the good effects for invalids which might otherwise be derived from the valuable stimulating powers of these preparations. The 'peptone of beef' is a viscid brown substance, with a full meatlike odour and pleasant taste. It contains about 63 per cent. of organic matter which is readily miscible with water; and, from the extreme ease with which it can be assimilated, must prove a valuable and agreeable addition to the invalid dietary.

JENSEN'S CRYSTAL PEPSIN.

We have received a specimen of Dr. Jensen's 'Crystal Pepsin,' so called on account of its peculiar glistening appearance, true crystals of pepsin being of course a thing impossible. It is claimed to be more than forty times as active as the ordinary saccharine pepsins, the beneficial effects of which, when judiciously employed, are by this time well known to the profession. One grain by weight of this preparation will dissolve between five hundred and a thousand grains of boiled albumen in from three to six hours; one to three grains is therefore an active dose. It is pointed out that pepsin is best given alone, many of the substances commonly mixed with it having the effect of attenuating or destroying its activity. In conclusion, the 'Crystal Pepsin' is an elegant, active, and stable preparation. The English agents are Messrs. Walker, Troke, & Co., 82 City Road, E.C.

NEW INVENTIONS.

DR. B. W. RICHARDSON'S STANDARD SPHYGMOGRAPH.

In the article 'Standard Pulse-Readings' in the *Asclepiad* for July 1885, Dr. Richardson describes his standard sphygmograph as follows. For all writing purposes, and for perfect convenience, Dr. Dudgeon's sphygmograph may be taken as well-nigh perfect. What I found wanting in it, as in Pond's, and what I have attempted to supply, have been the means of applying, accurately and easily, the pressure upon the pulse, and of registering the reading so as to be able to obtain a natural standard, I mean a standard from a natural pulse, that will determine, from one uniform reading or constant, all unnatural or morbid variations, and will be worked automatically. To effect the weighing part, or the means for determining the pressure, I requested Mr. Krohne, of the firm of Krohne & Sesemann, who has rendered me the most useful aid in this work, to remove from my Dudgeon's sphygmograph the pressure-gauge devised by its inventor, and to introduce instead a steelyard balance, which projects as a weighing bar from the fore-part of the instrument, as shown in the diagram (fig. 1). The bar, which is carefully graduated, will weigh from one ounce to six ounces. The weight, which moves along the bar, is arranged in the same manner as in the instrument for measuring time in music, the metronome, and can be made to glide from one degree to another with the utmost ease.

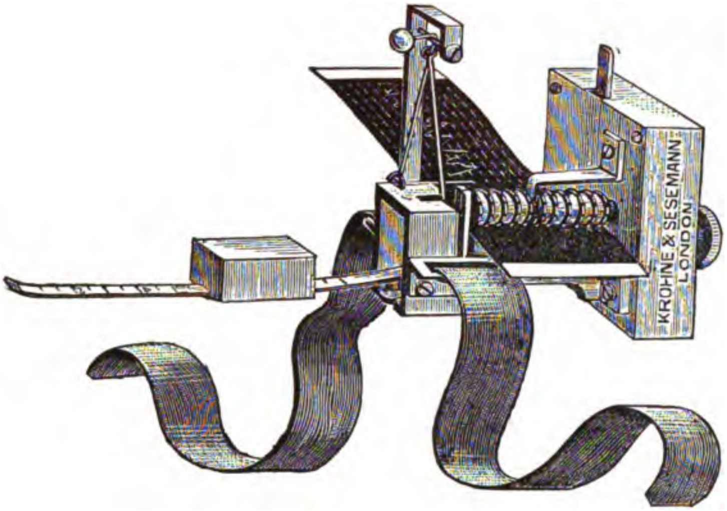


Fig. 1.

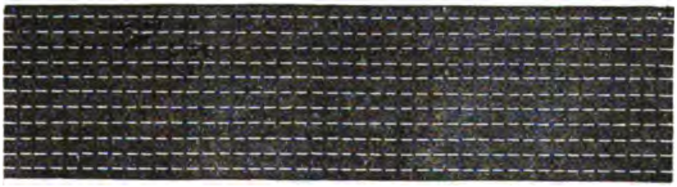


Fig. 2

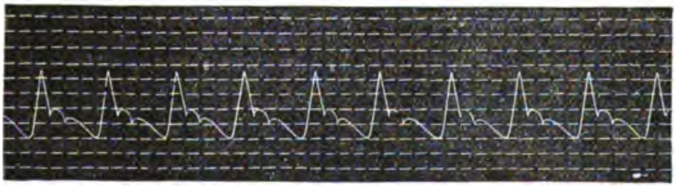


Fig. 3.

In weighing the pulse with this balance, the sphygmograph is placed on the wrist in the usual way; and, when the pulse is found by the regular movements of the needle on the recording paper, the weight is gradually moved up and down the scale, until the balance between the pressure which holds the instrument firmly in position, and the pressure exerted by the steelyard, is precisely determined. Then the recording paper is allowed to traverse the stage under the clockwork action, and the record is written off by the needle.

As a general practice, I take the reading at first with a three-ounce pressure from the balance. But I never omit to test the full pressure later on. I fix the instrument with my left hand, by means of the straps which pass from it round the wrists, so firmly, that I may, by movement of the steelyard weight, find what is the longest upstroke that can be obtained. Having found that, I let the recording paper traverse the stage to take the record. For holding the instrument steadily in its position, I use two straps of equal length, attached to the instrument on each side. Over these I fit a movable wrist-plate, which gives great firmness with ease of movement. With properly acquired skill in manipulation, the pulse may be taken by the instrument almost as readily as by the finger itself.

I now come to the second, and I think more important, improvement in the pulse-reading process. This introduces a plan by which each record is measured, as it is taken, on a series of vertical and horizontal lines produced on the carbonised paper at the same moment as the pulse curves are written. The plan is as follows.

The carbonised paper, which traverses the stage to receive the impressions from the needle, and which is moved by the pulse, has hitherto been carried along by the motion of a smooth circular rod or bearing, made to rotate by the clock represented in the square box in the diagram (fig. 1). Into this revolving bar I have now had set a row of sharp edges, which, in revolving on the carbon, cut a series of lines of equal distance from each other along the whole length of the paper. These lines are so arranged that they leave on the paper ten horizontal spaces or degrees, each degree two millimètres apart. At the same time, the sharp blades are divided transversely, so as to cut also a series of vertical dotted lines, or degrees, each two millimètres apart. When, therefore, the carbonised paper is made to traverse the stage by the clock movement, with the needle at rest, it is marked out by a set of measuring lines, horizontal and vertical, upon which the movements of the pulse are written when the needle is moved by it. This constitutes the scale, or chart, on which the standard readings of the radial pulse are taken. In its open form, the scale is sketched in the diagram (fig. 2).

In bringing this scale into action, no more preparation is required than for the ordinary paper. The change is effected entirely by the sphygmograph itself, which cuts the carbon, automatically, at the same time that the needle is marking the tracings produced by the pulse. There is, therefore, neither addition of time nor of labour to the operator.

In order to produce the pulse-readings with the measuring scale, the carbonised paper is made to traverse the stage with the needle set in motion by the pulse, after the correct pulse pressure has been found. The result is a reading as shown in the diagram (fig. 3).

As will be seen, the pulse-tracings cross the standard or chart lines, and admit of being accurately measured in respect to the ascending or ventricular movement of the pulse; the first descending movement; the second short ascent; the second short descent; the third short ascent; and the third final descent down to the angle where the next similar series of movements, or, as they are sometimes called, 'events,' take their start.

This diagram shows the order of movement over the lines and degrees, but it also shows more. It gives, as correctly as I can render it from twenty-five readings of the right radial pulse of healthy persons between thirty and thirty-five years of age, and in conditions as closely natural as it is possible to obtain, the normal pulse standard or constant, while the pulse is lifting the steelyard weight balanced at four ounces, with the subject in the sitting posture.

The clock in the sphygmograph, with which these tracings were made, is so 'set' that the period of passage of the surface of carbonised paper occupies precisely the sixth part of a minute, or ten seconds. The number of each ascending tracing is consequently the number of completed pulse movements in the sixth of a minute. Let the number of straight upright lines across the scale be multiplied by six, and the rate of the pulse per minute is arrived at, and may be estimated fairly from the number seventy-two as a natural mean or standard. Once more, let it be observed that the distance apart of each upright line, horizontally, is precisely the length of the line itself, so that the space included in a perfected pulse-movement, from the first point of mpulse to the last point of movement, is a square of four and a half degrees, or nine millimètres. The address of Messrs. Krohne & Sesemann is 8 Duke Street, Manchester Square, London, W.

ARLOING'S APPARATUS FOR MEASURING THE TOTAL QUANTITY OF CARBONIC ACID EXHALED BY SMALL ANIMALS.

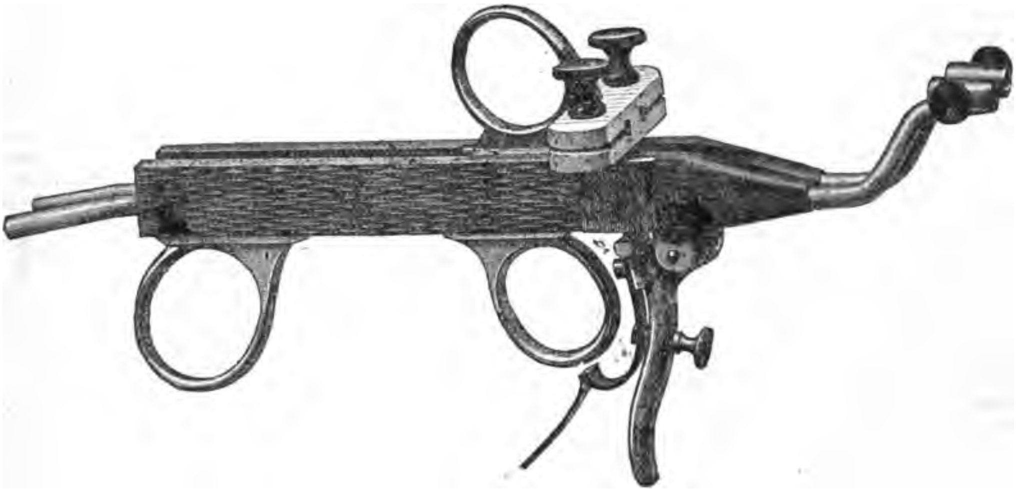
It is often necessary to determine what are the modifications which the combustion of carbon undergoes in healthy and unhealthy animals. These modifications can only be studied by means of prolonged observation, in order to be perfectly certain that no momentary disturbance takes place in consequence of manipulation, or in arranging the instrument. It is therefore essential that the animal be shut up in a closed area, where it can breathe in a normal manner. M. Arloing's apparatus consists of two sections; one is composed of the breathing apparatus, and the apparatus necessary for supplying it with a given volume of air, free from carbonic acid, submitted to a pressure equal to that of the atmosphere; the other is a combination of different apparatus which succeeds in extracting a certain quantity of the air exhaled from the total mass and passing it through tubes containing potash, in which it leaves the carbonic acid which it contains.

APPARATUS FOR MEASURING THE RAPIDITY OF TRANSMISSION OF NERVOUS IMPRESSIONS.

At a meeting of the Académie des Sciences, M. Brown-Séquard spoke of the result of his researches for measuring the rapidity with which sensation and volition may be transmitted to the nerve-centres. M. Brown-Séquard stated that the rapidity is less in the spinal cord than in the nerves. At M. Brown-Séquard's request, M. d'Arsonval has constructed an apparatus with the aid of which the rapidity of transmission can be measured easily, and with great precision. The person to be treated is placed in a galvanic circle, and, when one pole is placed in contact with any part of the body, the current acts upon a needle, which runs round the divisions of a dial. The divisions are two hundred in number, and the needle takes one second to describe the circle. Each division represents $\frac{1}{200}$ of a second. As soon as the subject receives the shock, he presses an India-rubber bulb which he holds in his hand, and the current is then interrupted, the needle stops, and on the dial can be seen how much time has elapsed between the instant when the shock was felt and the contraction of the muscle. The space passed over is represented by the distance from the point on the surface of the body to the spinal cord, from the latter point to the brain, and finally from the brain to the contracted muscle. M. d'Arsonval's apparatus will be of great use to medical men in the treatment of most diseases, but especially in nervous affections.

GALVANOCAUTER AND ELECTRIC LIGHT IN SURGERY.

In the accompanying cut one of Fahrig's Galvanocauter Instruments is shown. It depicts the platina loop with armature, the handle of which is, as the maker describes it, an universal handle, and diverse armatures can be mounted on the same handle to suit different operations. Thus, for instance, if a tumour be rather low-seated, the long loop should be used for its removal. These galvanocauter instruments, which have been greatly improved by several German professors and medical authorities, are coming more and more into favour, especially on the Continent, but also in England. Several of the best medical specialists use these instruments, with the very best success. All galvanocauters depend upon the motive power to heat at the proper moment, and to the proper point of heat. The platinum wire, which is then used in its heated state to remove the parts which otherwise would have to be removed by the knife, so far takes the place of the much-dreaded knife, with the difference of greater speed and less pain, without loss of blood. The motive power is supplied by a suitable battery, which is of special construction, and capable of being regulated as required. The battery was one of the greatest problems to solve in connection with galvanocautery, for a great power is required to heat a long piece of platinum for several minutes' duration; and not only quantity in some cases is demanded from such a battery, but oftentimes, for use of the medical lamps, a high electromotive force is required. Then, for a surgery, the battery must not emit fumes, nor be dangerous in the way of strong acids, and hence many devices have been tried. The Chromo Battery, which has by far been the most successful of all for use in the surgery, is shown in the 'Manchester' Battery, invented by Mr. Fahrig, which cell has an electro-motive force of 5 volts, and gives 15 ampères; an arrangement of these cells, with lifting apparatus to lift the zinc out of exciting liquid while the battery is not in use, is the best arrangement for medical light and for galvanocautery, and therefore promises to come into universal use. In medical light instruments the laryngoscopes are very useful. The same maker manufactures a plain mirror laryngoscope, especially useful for examining the mouth and teeth, hence greatly used by dentists. Also a spoon laryngoscope, very generally adopted in surgery; ear mirror lamps; nose and eye mirror lamps; also specular lamps for all purposes. It is the intention of Mr. Fahrig to give shortly a demonstration of all the instruments and parts connected therewith, to which the medical profession specially are invited, so that they may examine them and make suggestions for their improvement. Meanwhile, the apparatus may be inspected by any member of the profession interested in the question at 91 Finsbury Pavement, E.C.



THE NEW 'HYGROSCOPIC' DIAPER.

Under the above title, Messrs. T. Roberts & Co., of Tib Street, Manchester, have introduced and patented a new napkin for infants' and ladies' use generally. It has already received the approval of a number of leading medical men in the Manchester district, as well as professional nurses, and must commend itself to all mothers who have been fortunate enough to have seen it. The new cloth is of the 'twilled' order, is made of the finest cotton, and is finished with a beautifully soft face, to represent swansdown, by which name it is also called. Its advantages are that it is not only soft but warm, and far more absorbent than the finest diapers; and, while costing only about half the price of the former, it is said to last much longer, retaining all its soft and absorbent properties to the last. The advantages enumerated are likely to commend the swansdown diapers to the notice of the profession, not only for the purpose above named, but for use in the hospital and surgery, for which it is peculiarly adapted. They may be obtained through the usual channels.

MISCELLANY.

We learn from *Il Morgagni* that a new medical and surgical society has been founded at Pavia.

The *Canada Medical and Surgical Reporter* tells us that it is reported that his satanic majesty, while on a recent visit to this planet for a cargo of sulphur, was shown a sample of iodoform. He immediately countermanded the sulphur order and substituted iodoform, saying, 'Not in all my realms below does any perfume so please my senses.' In other words, the odour of iodoform beats sheol.

Microbes as Factors in the Formation of Foreign Bodies and Calculi.—At the Paris Biological Society,

M. Galippe stated that he had examined arthrophytes removed from a knee, and had observed microbes in them, the same as he had detected in calculi removed from the bladder; he had isolated them and cultivated them. This investigator is therefore confirmed in his belief that the crystallisations found in the human economy develop through the agency of microbes; these microbes are pathogenic parasites of the foreign bodies of the animal economy, whatever may be the chemical composition of these bodies, and wherever they may be found.

A Fungus Developed in the Human Saliva.—M. Galippe made known the following facts at a recent meeting of the Paris Academy of Medicine. After leaving filtered saliva by means of Pasteur's filter, M. Galippe observed at the lower extremity of the filter, which was not in contact with the fluid, a fungus composed of tubes and spores of mycelium. Following the advice of Professor Cornil, he cultivated this fungus in the cells of Von Tieghem, and observed that the fungus was neither an *aspergillus* nor a *penicillium*. This fungus, which had neither been described nor represented, belongs to the Monilia family. M. Galippe proposes to give it the name of *Monilia sputicola*. M. Charcot gave publicity to these statements at the Academy of Sciences in the name of M. Galippe.

Bacillus of Dysentery.—Two Italian physicians (in the *Revista Internazionale di Medicina e Chirurgia*, No. 12) allege that they have discovered that dysentery is caused by the presence of a bacillus not yet described. This parasite they have invariably detected in the fæces of dead patients who had succumbed to dysentery, in the air of hospital wards where the patients were congregated, and in the water of two wells which had been exclusively used for these patients.

The Cheltenham Mineral Waters.—We are glad to observe that an effort is now being made to revive the prosperity of the mineral waters of Cheltenham. That they have fallen so much out of use, has been partly the result of changing fashion, partly of the re-opening of the Continent after the long wars. There is no question that the Montpellier spring should be found as useful now as formerly in hepatic and intestinal disorders, while the Cambray spring is an excellent chalybeate. One of the great wants of all English spas is that of the amusements to be found more or less at all foreign ones. These amusements have always been found essential to the success of spas. We therefore note with pleasure the announcement that promenade concerts will be continued all through the season.

The New Element Germanium.—The recent discovery of a new element, Germanium, by Professor Cl. Winkler, at Freiberg in Saxony, has been fully corroborated. According to a pamphlet on this subject by the same author, the metal called argyrodite, found by A. Weisbach, near Freiberg, contains 73 to 75 per cent. of silver, 18 per cent. of sulphur, 0·21 per cent. of mercury, minute quantities of iron, and traces of arsenic. Repeated analyses of this metal invariably evinced a loss of 6 or 7 per cent., and the usual methods of examination ever failed in accounting for the missing constituent. After a lengthened research at last Winkler succeeded in proving that argyrodite contained a new element, resembling antimony, but differing from it by very marked characteristics. On heating argyrodite under exclusion of air, best by passing a current of hydrogen, a black, crystalline, easily volatile sublimate is produced, which fuses into reddish-brown drops, and chiefly contains sulphide of germanium. The latter represents, when pure, a snowy white substance, readily soluble in ammonia. On heating sulphide of germanium in a current of air, or raising its temperature with nitric acid, it forms a white oxide, not volatile above redness, soluble in hydrate of potash, from which it is precipitated, after acidulating the solution with hydrosulphuric acid, as a white sulphide. The precipitation, however, is interfered with, or retarded in very weak solutions. The element, isolated from its oxide or sulphide by reduction by means of hydrogen, resembles grey arsenic, but possesses less lustre, and volatilises only above redness and evaporates not so readily as antimony. On volatilising, the new element forms, on the walls of the vessel, small crystals which resemble evaporated iodine, which are not fusible, and differ in every respect from antimony. On heating germanium or its chlorides in chlorine, a white, very evaporable chloride is obtained, which more readily volatilises than chloride of antimony, and which is separated in a white precipitate from its acidulated aqueous solution by means of hydrosulphuric acid. The determination of the atomic weight of germanium will show whether it ranges, as it is supposed, between antimony and bismuth.

The Physical Condition of Workers at Tobacco-Factories and Slaughter-houses in St. Petersburg. Dr. Ivan M. Muratoff, of St. Petersburg (*St. Petersburg Inaugural Dissertation*, 1885, pp. 74, with one diagram), has measured the height and weight, the chest's circumference, and the vital capacity of the lungs in 2,570 workers—to wit, in 165 butchers from town slaughter-houses, and in 2,405 workers (2,020 women and 385 men) from four tobacco, cigar, and cigarette factories; 1,611 women and 524 men were peasants, 409 women and 26 men burgesses. The age of women varied from 11 to 61, that of men from 9 to 60. Simultaneously, all possible conditions of their life were inquired into. The main results obtained by the author may be summarised thus. 1. The average height of adult town's women (burgesses) is from 154 to 156 centimètres; that of peasant women 153 or 154. The latter attain their largest height at least two years earlier than the former. 2. The average height of male cigar-makers is 164 to 165 centimètres, while that of slaughter-house men is from 166 to 169. The former attain their largest height at 22, the latter at 18 or 19. 3. An especially active growth in girls takes place at the period between 12 and 15; boys begin to grow at an increased rate also at 12, but their growth reaches its highest activity only at the period between 16 and 18. 4. The chest's circumference in adult town's women is, in the average, 80 centimètres; that in peasant women, 83. It becomes larger than a half of the height at 19 or 20 in town's women, and at 17 or 18 in peasants. 5. The chest's circumference in adult male cigar-makers is about 87 centimètres, and in butchers 91. It overgrows the moiety of the height at 19 or 20 in the former, and at 17 or 18 in the latter. 6. The average weight of adult town's women is 52 kilogrammes; that of peasants 54; that of male cigar-makers 57 or 58; and that of butchers 66 or 67. 7. The maximal vital capacity of the lungs in town's women is 2,600 cubic centimètres, and is attained between 31 and 35; that in peasants, 2,793, at 23 to 25; that in male cigar-makers, 3,699, at 26 to 30; that in butchers, 4,190, at 21 to 24. 8. Of 2,505 live children delivered of 807 married women, 1,821 (72·6 per cent.) died, only 684 (27·3 per cent.) remaining alive at the date of the examination. Of 410 live children delivered of 197 single women, 288 (70·2 per cent.) died, while 122 (29·7 per cent.) were living. Abortion was noted 195 times in married, and 23 times in single women. Anomalies of menstruation were found only in about 10 anæmic women. 9. In 9·8 per cent. of town's women bronchitis, and in 1·3 per cent. phthisis, was present; the respective figures for peasant women were 5 and 1 per cent.; for male cigar-makers 9·6 and 1·2 per cent. 10. The number of workers affected with bronchitis and phthisis increases with the duration of work at tobacco factories. Still, there are no obvious grounds for ascribing the fact solely to a contact with tobacco. The people are overworked and underfed; the number of working hours at the factory is about twelve, and that at home (where cigarette-makers prepare paper cases for cigarettes, &c.) from three to six; the average earnings for women vary betweeen 3 and 4 roubles (6 to 8 shillings) a week; for men, from 4 to 8 roubles (8 to 16 shillings).

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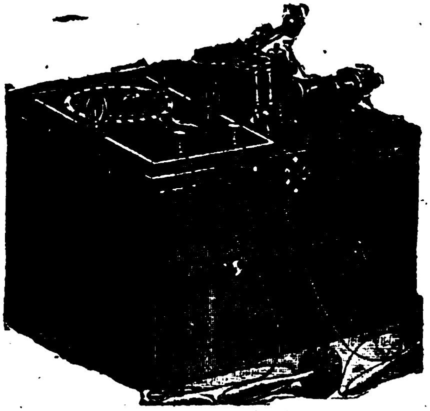

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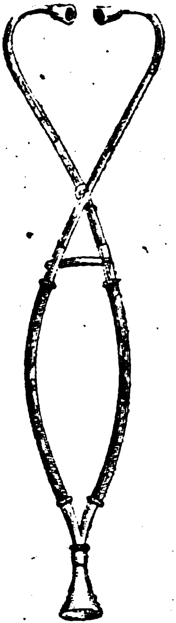
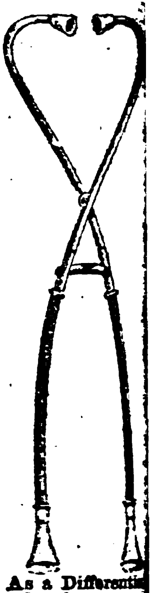


With single Chest-piece.

DR. SPENCER'S
IMPROVED
BINAURAL STETHOSCOPE.

[*From the 'BRITISH MEDICAL JOURNAL,' January 2nd,* 1886.]



As a Differenti Stethoscope.

DR. SPENCER'S BINAURAL STETHOSCOPE,

Combining in the same Instrument a Stethoscope for ordinary use, and a Binaural Differential Stethoscope.

'THIS stethoscope was first introduced about eleven years ago, and a detailed description of it was published in the *British Medical Journ* March 28, 1874. At that time it was rare to see a medical man using a binaural stethoscope. The only binaurals in use were those desig by Dr. Leared (in 1851) and Dr. Camman, of New York (in 1855). These were very clumsy instruments, and, acoustically, full of g faults; the laws of acoustics were disregarded in their construction; all sorts of adventitious sounds were created in the stethoscope, vibrations were reinforced by resonance to such a degree that differences in the character of sounds could hardly be appreciated. The e produced reminds us of the child's toy-resonator, a sea-shell. Dr. Spencer's binaural remedied these defects by making the conducting medi a column of air of uniform diameter everywhere, there being in no part of the instrument any conditions whereby new sounds or reinforceme of sounds by resonance could be produced. The column of air was continuous with, and of the same diameter, as the column of air in t auditory meatus The stethoscope was originally designed as a binaural differential instrument, although it was adapted equally for gene use. Until the time of its introduction, the only differential stethoscope was one designed by Dr. Scott Alison. With Dr. Alison's stethosco two sounds could be compared, but the one with one ear and the other with the other ear it was not a binaural at all, so far as regards hea the same sound with both ears at the same time. In Dr. Spencer's differential stethoscope, sounds entering either of the two chest cups, collectors, were conducted to both ears at the same time. This result was gained by means of a tubular joint, which fulfilled also other imp tant functions connected with adjustment of the instrument to the ears. This stethoscope, as introduced eleven years ago, was too complica in some of its details and too high in price to command general use. Nevertheless, stethoscope makers speedily adopted some of the m characteristic features; and one at least of the binaural stethoscopes introduced lately is a copy of Dr. Spencer's without the differe arrangements. The stethoscope is now reintroduced with modifications and improvements, and in a cheaper form. It is truly a scienti instrument, simple and elegant in form, very portable and handy in use, and has already gained considerable popularity. Acoustically, it leaves little or nothing to be desired; vibrations are conducted to the ears without loss of intensity and faithfully, the slighter variations in the character of vibrations are brought out with clearness, and shades of tone which cannot be appreciated with the usual forms are brought o by this stethoscope with remarkable clearness and fidelity.

'The stethoscope may be described thus: Two metal tubes, bent in the usual way for adjustment to the ears, and fitted with two ivor ear-pieces, are crossed like the letter X, and are connected together where they cross by means of a tubular joint. By means of this joint, the ear-pieces are readily separated and adjusted to the ears; when adjusted the ear-pieces are retained in position by means of an elastic band stretched across the distal end of the tubes. Two pieces of rubber tubing, of special manufacture, are fitted to the two metal tubes a one end, and, at the other end, to a V-shaped metal piece which carries the collector.

'The mode of fitting together the separate pieces, so as to ensure uniformity of diameter in the conducting medium, is a special feature, and secures the end aimed at. The collector, of the usual shape, but smaller, is made of celluloid. In this form the stethoscope is adapted for all general clinical purposes. To convert it into a binaural differential stethoscope, it is only necessary to detach the V-shaped metal piece, and to fix to the two rubber tubes two collectors (also celluloid) supplied with the stethoscope. Suppose, then, that the two collectors are applied to any two separated spots on the chest-wall, the sounds from one spot only are admitted to both ears if the rubber tube corresponding to the collector on the other spot is compressed between the thumb and forefinger. The sounds from this other spot may be listened to with both ears, if now the tube through which the former sounds were allowed to pass is compressed and compression is made on the tube which before was allowed to be free. Thus, sounds can be readily and rapidly admitted to, or shut off from the ears, at will, by alternate compression of one of the rubber tubes near the chest end. This obliteration of the tube, and consequent barring of the conduction of vibrations is very complete: a loud cardiac *bruit* is effectually excluded from the ears, although the collector may be held in position directly over the site of the *bruit* whilst compression is being made on the rubber tube.

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EDITED BY ERNEST HART

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1. *Royal College of Physicians of London:* Diplomas of Licentiate, Member, and Fellow.
2. *Royal College of Surgeons of England:* Diplomas of Member and Fellow.
3. *Apothecaries' Society of London:* Licence.
4. *University of Oxford:* Degrees of Bachelor of Medicine and Doctor of Medicine, and Master in Surgery.
5. *University of Cambridge:* Degrees of Bachelor of Medicine and Doctor of Medicine, and Bachelor of Surgery and Master in Surgery.
6. *University of London:* Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
7. *University of Durham:* Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, and Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
8. *Victoria University, Manchester:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master of Surgery.
9. *Royal College of Physicians of Edinburgh:* Diplomas of Licentiate, Member, and Fellow.
10. *Royal College of Surgeons of Edinburgh:* Diplomas of Licentiate and Fellow.
11. *Faculty of Physicians and Surgeons of Glasgow:* Diplomas of Licentiate and Fellow.
12. *University of Aberdeen:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
13. *University of Edinburgh:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
14. *University of Glasgow:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
15. *University of St. Andrew's:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
16. *King and Queen's College of Physicians in Ireland:* Diplomas of Member, Licentiate, and Fellow, and Licentiate in Midwifery.
17. *Royal College of Surgeons of Ireland:* Diplomas of Licentiate and Fellow; and Diploma in Midwifery.
18. *Apothecaries' Hall of Ireland:* Licence.
19. *University of Dublin:* Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
20. *Royal University in Ireland:* Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery; and a Special Diploma in Obstetrics.

The Royal College of Physicians of London and the Royal College of Surgeons of England have instituted a conjoint examination for the conferring of the licence of the former and the membership of the latter body.

The Royal College of Physicians and Surgeons in Edinburgh, and the Faculty of Physicians and Surgeons in Glasgow, have also instituted a conjoint examination for the conferring of licences.

The King and Queen's College of Physicians in Ireland, and the Royal College of Surgeons of Ireland, are also contemplating the institution of a conjoint examination.

The Royal Colleges of Surgeons and the Faculty of Physicians and Surgeons of Glasgow grant licences in Dental Surgery, which are registrable under the Dentists' Act.

Certificates and diplomas in State Medicine and Public Health (which are registrable under the Medical Act of 1886) are conferred after examination by the Universities of Oxford, Cambridge, London, Durham, Edinburgh, Glasgow, and Dublin; by the Royal University of Ireland; by the Royal Colleges of Physicians in London and Edinburgh; by the Faculty of Physicians and Surgeons of Glasgow; and by the King and Queen's College of Physicians in Ireland.

The following is a general summary of the conditions required on the part of candidates for examination; but, for further details, our readers must consult the regulations issued in the Student's numbers of our contemporaries; or apply to the officers of the respective Universities, Colleges, and Halls.

The regulations of the Examining Bodies are, with very few exceptions, framed in accordance with the Resolutions and Recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council; prior to which he must have passed an examination in subjects of general education. As evidence of this are recognised:—1. The possession of a degree in Arts of an University of the United Kingdom or of the Colonies, or of some University recognised by the Medical Council; 2. A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the 'Recommendations of the General Medical Council.' No person is allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in the following subjects of general education: 1. English Language, including Grammar and Composition; 2. Latin, including Grammar, Translation from specified authors, and Translations of easy passages not taken from such authors; 3. Elements of Mathematics, comprising (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including Simple Equations; (*c*) Geometry, including the first book of Euclid, with easy questions on the subject-matter of the same; 4. Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics; 5. One of the following optional subjects: (*a*) Greek; (*b*) French; (*c*) German; (*d*) Italian; (*e*) Any other modern language; (*f*) Logic; (*g*) Botany; (*h*) Zoology; (*i*) Elementary Chemistry. The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognised as dating fifteen days earlier than the date of registration. Forms for registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the licensing body with which he intends to become connected): 1. By attendance for one year on the practice of a provincial hospital or other public institution recognised for this purpose; 2. As the pupil, for one year, of a legally qualified surgeon holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities; 3. By entering at once at a recognised medical school.

The course of professional study must occupy four years, of which at least three winter and two summer sessions must be passed at a recognised medical school. For the degrees of the Universities (except that of London and the Royal University in Ireland) the candidate is required to spend a portion of the time of medical study at the University which grants the degree, or at a college in connection therewith.

To obtain a degree, diploma, or licence, two examinations at least in professional subjects must be passed. These must include the following subjects: Chemistry (including the rudiments of the principles of the science and the details which bear on the study of Medicine, Light, Heat, and Electricity); Anatomy; Physiology; Materia Medica and Pharmacy; Pathology; Medicine (including Medical Anatomy, Clinical Medicine, and Therapeutics); Surgery (including Surgical Anatomy and Clinical Surgery); Midwifery (including Diseases peculiar to Women and to New-Born children); Theory and Practice of Vaccination; Forensic Medicine; Hygiene; and Mental Diseases.

Special arrangements exist at the Universities of Durham and St. Andrew's for granting degrees to practitioners of medicine above forty years of age.

INSTRUCTION IN THE MEDICAL SCHOOLS.

THE medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the London, St. Mary's, the Middlesex, St. Thomas's, and Westminster Hospitals; and the Medical Faculties of King's and University Colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, Mr. Thomas Cooke's School of Anatomy and Surgery, and the West London Hospital Preparatory School of Medicine.

In the provinces in England there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; the Medical School affiliated to University College, Bristol; the Medical Faculty of University College, Liverpool (Royal Infirmary School of Medicine); the medical school in connection with the Yorkshire College at Leeds, and that attached to the Firth College in Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education, but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow; the Extra-academical School in Edinburgh; and Anderson's College, the Royal Infirmary School of Medicine, and the Western School of Medicine, in Glasgow.

In Ireland, the chief medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the Queen's Colleges at Belfast, Cork, and Galway. There are also several medical schools in Dublin: viz., the Carmichael College of Medicine and Surgery, the Catholic University, and the Ledwich School of Anatomy, Medicine, and Surgery.

For information regarding these institutions reference must, as we have already said, be made to the published prospectuses. We shall, however, endeavour to classify a part of the information therein contained under certain heads, viz., Clinical Instruction; Practical Surgery; Special Departments; Practical Physiology; Hospital Appointments; Tutorial Instruction; and Scholarships, Exhibitions, and Prizes.

CLINICAL INSTRUCTION.—At all the hospitals connected with medical schools, the physicians and surgeons deliver at stated intervals lectures on the cases under their care, in addition to making comments during their visits to the wards or in the operating theatre. In some instances, special provision is also made by the appointment of one or more of the hospital staff as clinical professors or lecturers; and in several of the hospitals a certain number of beds are specially devoted to the purpose of clinical instruction. At Guy's Hospital, forty patients are set aside in the medical wards, and are visited and their cases lectured on by the physicians in the winter, and by the assistant-physicians in the summer session: the surgeons also select cases for clinical instruction. A similar arrangement exists at the London Hospital, where two wards are devoted to the express purpose of teaching clinical medicine; the cases being lectured on by the physicians in the winter, and by the physicians or assistant-physicians in the summer. Special clinical professorships in medicine and surgery, in addition to the ordinary clinical lectures given by the physicians and surgeons, exist at the King's and University College Hospitals. In the former, the professor of clinical medicine is Dr. George Johnson; and the professors of clinical surgery are Mr. John Wood and Sir Joseph Lister. In University College Hospital there are two special chairs, known as the 'Holme Professorships' of Clinical Medicine and Surgery. The Holme professor of clinical medicine is Dr. Wilson Fox, who delivers clinical lectures, on Tuesdays and Thursdays, on the significance of the general signs of disease, and on the special modes of examination, diagnosis, and treatment of individual diseases. There are also two assistant teachers of clinical medicine, Dr. Gowers and Dr. Barlow, who hold classes for instruction in physical examination, the investigation of diseases of the circulatory, respiratory, and nervous systems, the examination of the urine, &c. The Holme professor of clinical surgery, Mr. Christopher Heath, gives a clinical lecture once a week, and also holds a weekly clinical examination on surgical cases in the operating theatre; these examinations, while open to the whole class, being specially intended for the instruction of the senior students. Mr. A. E. Barker and Mr. Godlee are assistant-professors of clinical surgery. A special course of lectures on clinical surgery is given in St. Thomas's Hospital, the lecturer being Mr. John Croft. In Cambridge, clinical instruction in medicine and surgery is given at Addenbrooke's Hospital throughout the year. At Leeds, clinical classes meet at appointed hours to receive instruction in the wards from the physicians, and special courses of clinical lectures are given by Dr. Clifford Allbutt, consulting physician, and Mr. Wheelhouse and Mr. Pridgin Teale, consulting Surgeons to the Infirmary. In the Liverpool Royal Infirmary, Dr. Glynn (one of the physicians) gives, once a week during the winter, practical instruction in clinical medicine and the methods of physical diagnosis. Two clinical tutors, in the Medical and Surgical Wards, are also appointed. A medical and a surgical clinical lecture are given every week in the Manchester Royal Infirmary. Elementary and Advanced Clinical Classes are formed by the members of the Infirmary staff at each of the trimestral periods, commencing with October, January, and May. Advanced Classes in Clinical, Medical, and Surgery are held for students in the last two years of their attendance at the Infirmary. In the Infirmaries of Aberdeen, Edinburgh, and Glasgow, clinical lectures on medicine, surgery, and midwifery are delivered by the medical staff of each institution. The Universities of Edinburgh and Glasgow have special professors of Clinical Medicine and Surgery. In the medical schools of Ireland, clinical courses are given through the session.

In connection with the subject of Clinical Instruction, reference must be made to means provided at several hospitals for the special purpose of training the students in the observation of cases. At the Charing Cross Hospital, a course of practical medicine is given by Dr. F. Willcocks and Dr. H. M. Murray. It includes the methods of examining organs, the examination of morbid products, case-taking, &c. At St. George's Hospital a similar course is given by Dr. Whipham; at Guy's Hospital by Dr. G. N. Pitt; and at the Middlesex Hospital, by Dr. Coupland and Dr. Douglas Powell. At several of the medical schools there are medical tutors, who instruct the students in the physical examination and systematic description of cases. The provision made at University College Hospital has been referred to above. Classes for medical demonstration are held in the Manchester Royal Infirmary twice weekly during the summer by two of the medical officers; in which classes instruction is given in anatomy as applied to medicine, in physical and chemical examination, &c. In the University of Edinburgh, a class for instruction in clinical medicine is held in the wards of the Royal Infirmary by the clinical tutor.

PRACTICAL SURGERY.—At most of the schools, special provision is made for instruction in this important branch of medical education. The courses embrace such subjects as the application of anatomy to surgery on the living person or the dead body; the methods of proceeding, and the manipulations necessary, in order to detect the effects of diseases and accidents; the performance of operations on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated by preparations and recent specimens. The course of practical instruction is generally distinct from that of systematic surgery, and is in several instances given in the summer session. In the Liverpool School of Medicine, the lectures on Systematic Surgery are given thrice weekly, and there is a concurrent course of Practical Surgery twice weekly; besides which, a course of Operative Surgery is given in the summer.

SPECIAL DEPARTMENTS.—Due provision is made for both theoretical and practical instruction in *Midwifery and Diseases of Women*, so as to enable students to meet the requirements of the examining bodies.

Ophthalmic Surgery is taught by lectures and observation of cases at all the London schools; each hospital receiving ophthalmic patients except the Charing Cross, the pupils of which are admitted to the practice of the Royal Westminster Ophthalmic Hospital. As far as can be gathered from the prospectuses, the material available for the practical teaching of this subject (as far as regards in-patients) is as follows: St. Bartholomew's Hospital, 26 beds; Charing Cross (Royal Westminster Ophthalmic Hospital), 50 beds; Guy's Hospital, 50 beds (also about 3,000 out-patients); London Hospital, 12 beds. The other hospitals have beds for ophthalmic cases, but the number is not stated. Provision for teaching ophthalmic surgery, theoretical and practical, is made in the provincial schools. In the Universities of Aberdeen, Edinburgh, and Glasgow, instruction in ophthalmic surgery is given; and the students are admitted to see the practice of ophthalmic institutions in those cities. In the Extra-academical School of Edinburgh, and in the Schools of Medicine in Glasgow, courses of lectures on the subject are given. In Ireland, provision is made for the teaching of ophthalmic surgery in most of the medical schools.

Aural Surgery is taught as a special branch at all the London medical schools, and at the Leeds School of Medicine and the Bristol, Manchester, and Newcastle Royal Infirmaries among the provincial schools; also in the Extra-academical School in Edinburgh, and in Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

Diseases of the Throat.—Special instruction in the diagnosis and treatment of diseases of the throat and larynx, and the use of the laryngoscope, is given at St. Bartholomew's Hospital by Mr. Butlin; at King's College Hospital by Mr. Rose; at the London Hospital by Mr. T. M. Hovell, who delivers a course of lectures on the subject; at St. Mary's Hospital by Mr. Norton; at the Middlesex Hospital by Mr. Hensman (with Diseases of the Ear); at St. Thomas's Hospital by Dr. Semon; at University College Hospital by Dr. Poore; at the Westminster Hospital by Dr. De Havilland Hall; at the Bristol Royal Infirmary by Mr. Harsant; at the Manchester Royal Infirmary by Dr. H. Simpson; at the Newcastle-on-Tyne Infirmary by Dr. Hume (with Diseases of the Ear); in the Edinburgh Royal Infirmary by Dr. McBride (with Diseases of the Ear); and in the Glasgow Royal Infirmary by Dr. Newman.

Diseases of the Skin.—For the teaching of this important department of medicine, special provision is made in all the London Hospitals, in the Bristol General Hospital, in the Manchester Royal Infirmary, and in the Newcastle-on-Tyne Infirmary. Demonstrations of cases, and clinical lectures, are given at stated intervals, generally once a week. In University College Hospital, Dr. Radcliffe Crocker, the physician in this department, gives clinical lectures on diseases of the skin once a fortnight. A course of lectures is given in the Edinburgh Extra-academical School. In Dublin, a course of instruction on diseases of the skin is given at the Adelaide Hospital.

Orthopædic Surgery is taught at St. Bartholomew's Hospital by Mr. Walsham; and at the Westminster Hospital by Mr. Richard Davy.

Mental Diseases.—Lectures on Psychological Medicine are delivered as a separate course in most of the London schools. Special arrangements for clinical instruction are made in several instances; thus the students of St. Bartholomew's Hospital have access to a large public asylum ; those of Guy's Hospital are admitted to Bethlem Hospital, those of the London Hospital to Bethnal House, and those of the Middlesex Hospital to the Leavesden Asylum. Two students of the London Schools, qualified to practise, are appointed for six months as resident clinical assistants in Bethlem Hospital. At Cambridge, clinical instruction is given at the county asylum at Fulbourn. At the Leeds School of Medicine, the students attend the West Riding Lunatic Asylum at Wakefield, where Mr. Bevan Lewis, the Medical Director, gives clinical lectures in addition to a course of systematic lectures at the school. In Manchester, a course of clinical lectures on mental diseases is given to senior students of Owens College by Mr. G. W. Mould, at the Asylum in Cheadle. At the Newcastle-on-Tyne College, instruction in psychological medicine is given by Mr. Wickham, medical superintendent of Coxlodge Asylum. In the University of Edinburgh, Dr. Clouston gives a course of Medical Psychology and Mental Diseases, with practical instruction at the Morningside Asylum. In the Extra-academical School, a similar course is delivered by Dr. Batty Tuke. In the Glasgow Royal Infirmary School of Medicine, a course of lectures on Mental Diseases is given by Dr. A. Robertson, in the City Parochial Asylum. In Dublin, special courses of lectures on mental diseases are given in the Richmond, Whitworth, and Hardwicke Hospitals, adjoining which is a large asylum containing over 1,000 patients. The lectures on psychological medicine are mostly delivered during the summer session.

Public Health.—Special courses of lectures on this subject are given at St. Bartholomew's, Charing Cross, Guy's, the Middlesex and St. Thomas's Hospitals, and at King's and University Colleges. At St. George's Hospital it is included in the course of Medicine; and at the London, St. Mary's, and Westminster Hospitals, in that on Forensic Medicine. In University College, besides the lectures, instruction in the chemical and microscopic examination of air, water, and food, is given in the hygienic laboratory. In several of the provincial schools, the subject is included in the lectures on Forensic Medicine. In Owens College, Manchester, lectures on hygiene are delivered by Dr. Ransome; in the Bristol Medical School by Mr. Davies; in the Newcastle College of Medicine by Dr. Armstrong; and in the Sheffield Medical School by Dr. Drew. In Scotland, also, the instruction in Public Health is given in connection with the lectures on Medical Jurisprudence. In Dublin there is a professorship of Hygiene in the school of the Royal College of Surgeons. In London, instruction in Sanitary Science is also given in the Parkes Museum of Hygiene, Margaret Street.

PRACTICAL PHYSIOLOGY AND HISTOLOGY.—This subject is taught in all the schools: but more elaborate provision is made in some cases than in others. At *St. Bartholomew's Hospital*, the course is conducted by a demonstrator and two assistant demonstrators, under the superintendence of the lecturers on Physiology and Chemistry.

At *Guy's Hospital*, Dr. Wooldridge gives a course of Histological demonstrations of the elementary tissues and the chief organs of the body, with their behaviour and re-agents, as studied with the microscope. The course is gone through during the summer session. A laboratory class in Practical Physiology, intended for advanced students, is also held by Dr. Wooldridge. It comprises Physiological Chemistry, Experimental Physiology, and advanced Histology and Embryology.

At *University College*, an elaborate course of instruction in Practical Physiology is given by Mr. Schäfer (Jodrell Professor of Physiology), and assistants. Practical instruction in Zoology and Comparative Anatomy is also given by the professor, Mr. Ray Lankester, and his assistants. For the details, we must refer our readers to the prospectus of the Medical Faculty, and also to that of the Faculty of Science, of the College.

At the *Westminster Hospital*, a course of lectures and demonstrations on Histology and Practical Physiology is given by Dr. Heneage Gibbes.

In *Owens College*, *Manchester*, a very complete course of practical Physiology is conducted during the year by Dr. Stirling, the Brackenbury Professor of Physiology. The class meets for systematic work in Practical Histology and Physiological Chemistry, and for demonstrations in Experimental Physiology. The Physiological Laboratory is open daily during the winter and summer sessions.

Courses of Practical Biology and Practical Physiology are also given in the other provincial Medical Schools, or in institutions in connection with them.

Practical Physiology is taught in the University of Edinburgh, by Professor Rutherford; in that of Aberdeen, by Professor McWilliam; and in that of Glasgow, by Professor Fleming. Courses are also given in the Edinburgh Extra-academical School; and in the Royal Infirmary School of Medicine, in Anderson's College, and in the Western Medical School in Glasgow.

HOSPITAL APPOINTMENTS.—Numerous appointments at the hospitals are open to the diligent student, without payment (except in the few cases hereinafter noticed) of any fee. For the resident appointments, a qualification to practise is required; and, in some instances, a salary is paid in addition to the provision of rooms and board.

At *St. Bartholomew's Hospital*, four house-physicians and ten house-surgeons are appointed annually. A resident midwifery assistant is appointed every six months ; an ophthalmic house-surgeon is also appointed for six months, and may be re-elected. A senior and a junior assistant-chloroformist are appointed annually. Each of these officers is provided with rooms by the hospital authorities. The senior assistant-chloroformist receives £50 a year ; each of the others has an annual salary of £25. Two qualified assistants are appointed in the Electrical Department every six months, and receive a salary. Clinical clerks to the medical in-patients, and to the physician-accoucheur, also clerks and dressers for the out-patient and special departments, are chosen from among the students. Forty dressers for the surgical in-patients and the surgical casualty department are selected each year; and other in-patient dresserships may be obtained on payment of £10 10*s.* for three months, or £16 16*s.* for six months.

At *Charing Cross Hospital*, a medical and a surgical registrar are appointed, each with a salary of £40 a year. Two house-physicians, two house-surgeons, and a resident obstetric officer are appointed every six months, after examination. An electrical assistant is appointed every four months. The clinical clerks—three to each physician, and two to each assistant-physician, and the dressers—three to each surgeon and assistant-surgeon, and also two clinical clerks to the physician-accoucheur, and two to the assistant physician-accoucheur, are appointed for periods of four months. Each student must act as in-patient clerk and dresser. Pathological assistants, who assist at the *post mortem* examinations, are appointed each month for three months.

At *St. George's Hospital*, house-physicians and house-surgeons are appointed half-yearly from among the perpetual pupils. The appointments are held for twelve months, with board and residence in the hospital, free of expense. Each pays a deposit of 50 guineas, which is returned if the duties of his office have been satisfactorily performed. A curator of the Pathological Museum, and a medical and a surgical registrar, each with a salary of £50; an ophthalmic registrar and a microscopic pathologist, each with a salary of £25; and an obstetric assistant, with board, residence, and a salary of £100, are appointed annually. An assistant-house-physician, an assistant house-surgeon, an ophthalmic assistant, two assistant medical registrars, and an assistant surgical registrar, are appointed every six months. Clinical clerks and dressers are also appointed.

At *Guy's Hospital*, there are appointed during the year senior and junior house-physicians, senior and junior house-surgeons, senior and junior obstetric residents, surgeons' dressers, clinical assistants, dressers in the eye wards, *post mortem* clerks, obstetric out-patient clerks, assistant physicians' clerks, dental surgeons' dressers, aural surgeons' dressers, medical clinical clerks, assistant-surgeons' dressers and dressers in the surgery, obstetric ward clerks, surgical clinical clerks, assistant-surgeons' clerks, extern obstetric assistants, and clerks in the room for applying electricity. All students have opportunities of becoming clinical ward clerks to the physicians and surgeons, as well as dressers to the assistant-surgeons, and dressers in the surgery; and the diligence with which they perform the duties of these offices is an important test of their fitness for the higher posts.

At *King's College Hospital*, a physician's assistant, house-surgeons, a physician-accoucheur's assistant, clinical clerks, and dressers, are chosen by examination from matriculated students of the College who are pupils at the hospital.

At the *London Hospital*, every student is expected to act as clinical clerk to the medical out-patients for six weeks in his second year, and to dress for three months in the surgical out-patient department; also to act as *post mortem* clerk for three months. The following appointments are also made: five house-physicians (qualified for registration) every six months; clinical clerks (open to all full pupils) every three months; a resident accoucheur (qualified) every six months; clinical obstetric clerks every three months in the in-patient, and every six weeks in the out-patient department; five house-surgeons, for six months (each being provided with board and residence); surgical dressers every three months; three clinical assistants (each with a salary at the rate of £80 *per annum*); a medical and a surgical registrar (each with £100 *per annum*); a dental assistant, ophthalmic and aural dressers, and *post mortem* clerks.

At *St. Mary's Hospital*, four resident medical officers are appointed for twelve months, and a resident obstetric officer for six months. They all reside in the hospital, free of expense. All students are required to perform the duties of clinical clerk and dresser for eight months after passing the primary examination, after having acted as dressers in the casualty and electrical departments.

At the *Middlesex Hospital*, six house-surgeons, six resident physicians' assistants, and two resident obstetric physicians' assistants are appointed in each year by competitive examination. They pay, on appointment, ten guineas. The appointments of clinical clerks and dressers are so arranged that every student may, at some period of his attendance on hospital practice, hold both a clerkship and a dressership. Obstetric physicians' clerks and ophthalmic dressers are appointed.

At *St. Thomas's Hospital*, two resident and one non-resident house-physician, an assistant house-physician, two house-surgeons, an assistant house-surgeon, and a resident accoucheur, are selected every three months from gentlemen who have obtained professional diplomas. An ophthalmic clinical assistant is also appointed with a salary of £50 per annum for six months. Clinical clerks and dressers to in-patients are selected from pupils, to the number in all of at least 100 each year; and clinical clerks and dressers to out-patients to the number of 80 or 100 each year. Two registrars, at an annual salary of £100 each, are appointed each year. There are also numerous minor appointments of anatomical assistants, prosectors, obstetric clerk, &c., open to all students.

In *University College Hospital*, eight house-physicians, six house-surgeons, and four obstetric assistants, are selected annually by examination from among the senior students. They reside in the hospital, paying for their board. Out-patient physicians, and surgeons' assistants, clinical clerks, surgeons' dressers, and ophthalmic surgeons' assistants, are selected from among the pupils who are also students of the College.

At the *Westminster Hospital*, a curator of the museum, and pathologist, with a salary of £52 10*s.*, and a medical and a surgical registrar, each with a salary of £40, are appointed annually. Two house-physicians, a house-surgeon, and a resident obstetric assistant, are appointed by examination for six months; they are provided with board and rooms in the hospital, and the senior house-physician, as chloroformist, receives an additional honorarium of £21. An assistant house-surgeon is appointed by examination. Clinical assistants to the assistant-physicians and assistant-surgeons, and to the officers in charge of special departments are appointed from among the most advanced students of the fourth year. Every student must act as out-patient dresser during three months in his first year, and afterwards hold the office of in-patient dresser and clinical clerk during a period of three months each.

In the *Birmingham General Hospital*, a resident medical and a resident surgical assistant, and two resident dressers, are appointed, each for six months.

At the *Queen's Hospital, Birmingham*, a resident obstetric assistant is appointed every six months, and a resident dresser every three months.

At the *Bristol Royal Infirmary*, students are appointed to clinical clerkships in their third and fourth years. Surgeons' dressers are appointed after the first year of study, and, when sufficiently qualified, reside in the hospital in weekly rotation, and act under the supervision of the house-surgeon. The dressers and clinical clerks pay fees in addition to those for hospital practice; the former £5 5*s*. for each six months, the latter £5 5*s*. for six months, or £8 8*s*. for a year. Obstetric clerks pay £3 3*s*. for three months. A pathological clerk is appointed every four months.

At the *Bristol General Hospital*, clinical clerks, dressers, and obstetric clerks are appointed. The clinical clerks and dressers pay each an extra fee of £5 5*s*. for six months; and the obstetric clerks £3 3*s*. for three months. The dressers reside in the hospital in rotation, free of expense.

In the *Leeds General Infirmary*, two house-physicians, four house-surgeons, twenty-four medical ward clerks, and the same number of assistant-physicians' clerks and assistant-surgeons' dressers, eight dressers in the eye wards, twelve *post mortem* clerks, and eighteen dressers in the casualty wards are appointed annually.

At the *Liverpool Royal Infirmary*, two house-physicians and three house-surgeons are selected (by competitive examination if necessary) from pupils of the school who have obtained a legal qualification to practise; they hold office for six months. Three clinical clerks are appointed to each physician, and three or more dressers to each surgeon, and two clerks to the wards for special diseases of women; they hold office for three months. *Post mortem* clerks are appointed for periods of six weeks. This appointment is required to be held by every student.

At the *Manchester Royal Infirmary* the following non-resident appointments are made annually:—a surgical registrar, salary £70 to £80; a pathological registrar, salary £80; a medical registrar, salary £50; and two assistant medical officers, salary £100 each. There are also appointed a resident medical officer for two years, also a resident surgical officer, and a resident medical officer at the Convalescent Hospital at Cheadle, each for one year, with a salary of £150; and a resident medical officer at the Fever Hospital at Monsall, for one year, at £200. Eight house-surgeons and four house-physicians are appointed in each year. An assistant to the resident medical officer at Monsall, with a salary of £50 per annum, and one at Cheadle, are appointed every six months. House-surgeons must possess registrable qualifications. Two or more clinical clerks are attached to each physician and assistant-physician, and two or more dressers to each surgeon and assistant-surgeon: two clerks are also appointed to the pathological registrar and to each of the assistant medical officers. They hold these for three months. Accident-room dressers are also appointed for three months.

In the *Newcastle-on-Tyne Infirmary*, four times in the year, two resident medical assistants, two resident surgical assistants, three non-resident clinical clerks, and sixteen dressers, are appointed for three months. Assistants in the pathological department and in the eye department, and to the dental surgeon are also appointed.

In the *Edinburgh Royal Infirmary*, resident physicians and resident surgeons are appointed for six months. Clinical clerks are also appointed; and each surgeon appoints several dressers for six months. There are also assistants in the pathological department.

In the *Glasgow Royal Infirmary*, four physicians' and six surgeons' assistants are boarded and lodged in the Hospital. The appointments can be held for twelve months, and holders are eligible for re-election. These appointments are open to students who have passed all their examinations except the last, or to qualified gentlemen. There are also numerous clerkships and dresserships.

TUTORIAL INSTRUCTION.—In addition to the ordinary courses of lectures and hospital practice, and practical instruction, many of the medical schools have an officer whose special duty it is to direct the pupils in their studies, and to hold classes for the guidance of those who are about to present themselves for examination before the licensing boards.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.—In addition to the rewards for diligence in professional study, many of the medical schools offer yearly one or more scholarships, usually in general literature, and in some instances in science. The competition is open to gentlemen about to commence their hospital studies; and the successful candidate is expected to enter as a pupil of the school in which the examination has been passed. In the examination in general literature, the subjects are usually those of preliminary education as defined by the General Medical Council, or of the Matriculation Examination of the University of London. In the Science scholarships, the usual subjects are Chemistry, Botany, and Zoology. The yearly value of the scholarships and exhibitions varies from £100 to £10.

There are also many scholarships and exhibitions, varying in value from £100 to £20, open to students during their period of professional study, or within a limited time after they have passed their final examinations for licences to practise. These exhibitions are in some cases awarded after examination in subjects of preliminary education; in others, they are given after examination in groups of subjects of professional education, elementary or practical.

Special rewards are also offered in many of the schools for evidence of proficiency in clinical observation.

For further information respecting the scholarships and exhibitions, and regarding the class prizes, as well as for many details which we are obliged to omit, our readers must consult the prospectuses of the schools and our advertising columns.

FRANCE.

GRADUATION IN MEDICINE.

THE degree of Doctor of Medicine in the University of France is conferred by the Faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons under regulations laid down by the Government.

The studies necessary for obtaining the degree last four years. During the first three years, the student may attend either one of the Faculties, or an *École de* *plein exercice*, or one of the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be pursued in a Faculty or in an *École de plein exercice.*

Sixteen inscriptions must be taken out, one every three months. On taking the first inscription, the student must present his certificate of birth, and, if a minor, the consent of his father or guardian; also the diplomas of Bachelor of Letters and of Sciences.

Every candidate must undergo a course of practical study as follows:—*First Year:* Physics, Chemistry, and Natural History. *Second and Third Years:* Anatomy and Physiology. *Fourth Year:* Operative Surgery and Pathology. Attendance on hospital practice (which is also obligatory) commences after the eighth inscription and continues through the remaining period of study.

There are five examinations; the first, after the fourth inscription and before the fifth; the first part of the second, three months after the tenth inscription and before the twelfth, and the second part after the twelfth and before the fourteenth inscription; the third cannot be passed until three months after the sixteenth inscription. Candidates who do not pass the first examination in October or November at the latest are put back to the end of the scholastic year, and cannot take out any inscriptions during that year. Candidates rejected at the other examinations are put back for three months, except after the examination in Practical Surgery, when the period is six weeks. Two other examinations have to be undergone, and the candidate must present a thesis on a subject chosen by himself.

The subjects of the five examinations are as follows:—*First Examination:* Physics, Chemistry, and Natural History, in their application to Medicine. *Second Examination:* First part, Dissections, Anatomy, and Histology (oral); second part, Physiology (oral). *Third Examination:* First part, Performance of Operations, External Pathology, Midwifery, and Operative Surgery (oral); second part, Internal Pathology or Medicine, and General Pathology. *Fourth Examination:* Hygiene, Forensic Medicine, Therapeutics, Materia Medica, and Pharmacology. *Fifth Examination:* First part, Clinical Surgery and Obstetrics; second part, Clinical Medicine, and practical demonstrations in Pathological Anatomy.

Pupils of the *Écoles de plein exercice* may pass the first and second examinations in the school. For this purpose, two examinations are held each year; one in August, for the first examination, and the second part of the second; the other in April, for the first part of the second examination. Rejected candidates may present themselves, after three months, for examination by a Faculty of Medicine. Students of preparatory schools in which the instruction corresponds with the programme of the first three years of study required, may pass in them the first examination and the first part of the second; the second part of the second examination must be passed before a Faculty or in an *École de plein exercice.* Pupils of other preparatory schools may defer the first examination till after the twelfth inscription. In that case, they undergo both parts of the second examination before the thirteenth inscription, and, from the commencement of the second year of study, are submitted to examinations at the end of each six months, the results of which are transmitted to the Faculties, to be taken into account in the examinations for the doctorate.

Candidates for the grade of *officier de santé* must take out sixteen inscriptions, the regulations regarding which are the same as for the degree of doctor. The programme of practical instruction to be pursued is: *First year,* Physics, Chemistry, and Natural History; *Second Year,* Anatomy and Physiology; *Third Year,* Anatomy, Physiology, and Operative Surgery; *Fourth Year,* Anatomy and Operative Surgery. Attendance on hospital practice commences with the fifth inscription. The whole of the sixteen inscriptions may be taken out in a preparatory school, where a complete course of instruction, as mentioned above, is given. At other preparatory schools, not more than fourteen inscriptions can be taken out.

There are six examinations: one at the end of each of the first three years; first, in Physics, Chemistry, Natural History, and Elementary Anatomy (bones and ligaments); second, in Descriptive Anatomy and Physiology; third, in Medicine and Surgery. After the sixteenth inscription, there are three final examinations (*examens définitifs*); first, in Dissection, Anatomy, and Physiology; second, in Operative Surgery, Medicine, Surgery, Therapeutics, and Materia Medica; third, in Clinical Medicine, Surgery, and Midwifery. No thesis is required.

Foreign medical practitioners, desirous of permission to practise in France as *officiers de santé*, must present their diplomas to the Secretary of the Faculty of Medicine. If the Council of the Faculty report favourably, the permission is granted. If they desire to obtain the degree of Doctor of Medicine, they must pass the last two examinations and present a thesis. Exception may be made in the case of medical men of acknowledged eminence, to whom the Faculty may at once grant all the privileges of the doctorate.

Foreigners may be admitted to a French faculty on presenting their certificates of study in their countries and paying a fee of £4.

There is no fee for inscriptions. The fees to be paid each year, including practical work and library (10 *francs*), are:—First year, 70 *francs*; second and third years, each 50 *francs*; fourth year, 30 *francs*; for examination for the degree of doctor, each examination or part of examination, 55 *francs* (in all 440 *francs*); thesis, 240 *francs*. *Officiers de santé* pay 30 *francs* for each of the three yearly examinations; for the three final examinations, 100, 110, and 210 *francs* respectively.

MEDICAL EDUCATION.

Medical Education in France is under the control of the State, and is given in the Faculties of Medicine and Pharmacy, the *Écoles de plein exercice*, and the Preparatory Schools of Medicine and Pharmacy.

The Faculties are six in number; five—those of Paris, Montpellier, Nancy, Lille, and Lyons—are schools of Medicine; the other, at Bordeaux, is a mixed Faculty of Medicine and Pharmacy. There are two *Écoles de plein exercice*, at Nantes and at Marseilles. There are Preparatory Schools at Amiens, Angers, Arras, Besançon, Caen, Clermont Ferrand, Dijon, Grenoble, Limoges, Poitiers, Reims, Rennes, Rouen, Toulouse, and Tours.

Faculty of Medicine in Paris.

The School of Medicine in Paris is open to all who wish to attend the courses and take degrees.

Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 40 *francs* is expected from each student.

The medical session begins on November 1.

The instruction in the Faculty of Medicine in Paris is given by the following professors: M. —— Anatomy; M. Robin, Histology; M. A. Gautier, Medical Chemistry; M. Baillon, Natural History; M. ——, Medical Physics; M. Regnauld, Pharmacology; M. Peter and M. Damaschino, Internal Pathology or Medicine; M. Duplay, Practical Surgery; M. Lannelongue, Surgery; M. Hayem, Materia Medica and Therapeutics; M. Cornil, Pathological Anatomy; M. Laboulbène, History of Medicine; M. Pajot, Midwifery; M. Proust, Hygiene; M. Brouardel, Forensic Medicine; M. Vulpian, Comparative and Experimental Pathology; MM. G. Sée, Potain, Jaccoud, Clinical Medicine; MM. Richet, Verneuil, Trélat, Le Fort, Clinical Surgery; M. Pajot, Clinical Midwifery; M. Grancher, Diseases of Children; M. Charcot, Diseases of the Nervous System; M. Panas, Clinical Ophthalmology; M. Ball, Mental Pathology; M. Fournier, Diseases of the Skin and Venereal Diseases.

Auxiliary courses are given by *agrégé* professors, as follows: Anatomy and Physiology, MM. Rochet, Reynier, and Remy; Physics, MM. Gariel and Guebhard; Chemistry, MM. Hanriot and Pouchet; Natural History, M. Blanchard; Medicine and Forensic Medicine, MM. Straus, Debove, Rendu, Hallopeau, Landouzy, Raymond, Troisier, Joffroy, Hanot, Quinquaud, and A. Robin; Surgery, MM. Terrillon, Humbert, Richelot, Peyrot, Bouilly, Reclus, Kirmisson, Segond, and Campenon; Obstetrics, MM. Pinard, Budin, and Ribemont-Dessaignes.

Practical instruction is given under the guidance of the following *chefs des travaux*: M. Farabeuf, Anatomy; M. Faguet, Natural History; M. Hanriot, Chemistry; M. Guebhard, Medical Physics; M. Cadiat, Histology; M. Laborde, Physiology; M. Gombault, Pathological Anatomy.

The Faculty of Medicine possesses laboratories for Anatomy (Professor Sappey), Physics (Professor Gavarret), Chemistry (Professor Gautier), Biological Chemistry (Professor Gautier), Practical Forensic Medicine (Professor Brouardel), Botany (Professor Baillon), Teratology (Director, M. Dareste), Experimental and Comparative Pathology (Professor Vulpian), Therapeutics (Professor Hayem), Pharmacology (Professor Regnault), Pathology (Professor Bouchard). There are also laboratories for practical instruction at several of the hospitals.

Attached to the Faculty of Medicine are the Botanical Gardens and Museum of Natural History; the Orfila Museum of Anatomy and Zoology, at the École de Médecine; the Dupuytren Museum of Pathological Anatomy, in the École Pratique; and the Library.

The prizes of the Faculty of Medicine are the following. The Corvisart prize, a gold medal of the value of 400 *francs* (£16) is offered for competition to all pupils of the Faculty who have also entered to one of the internal clinics. The subject is some question in medicine, the answer to which must be derived exclusively from facts observed in hospital practice. The Montyon prize, consisting of 700 *francs* (£28), is awarded to the author of the best essay on the prevalent diseases of the preceding year, their characters, symptoms, and treatment. The Barbier prize of 2,000 *francs* (£80) is offered annually to the inventor of an operation, or of instruments, bandages, &c., of general utility, and superior to anything of the kind that has been already in use. The Chateauvillard prize, also of 2,000 *francs*, is awarded yearly to the author of the best work on the medical sciences, printed between January 1 and December 31 of the preceding year. The works sent for competition must be in French. Graduation theses are admitted. An annual sum of 1,000 *francs* (£40) is awarded, under the will of the late Baron de Trémont, to a meritorious but poor student. An annual sum of 3,000 *francs*, bequeathed by Madame de Barkow, is applied to a similar purpose in the superior educational establishments in Paris. The Lacaze prize of 10,000 *francs* (£400) is offered biennially for the best essay on phthisis or on typhoid fever—the subjects being taken alternately. After the examination of the theses, the Faculty names to the Minister of Public Instruction the candidates worthy of special distinction, in the form of silver medals, bronze medals, and honourable mention. Students' bursaries of the value of 1,200 *francs* are awarded after competition. Each bursary is tenable for one year; and the holder, if desirous of its renewal, must again compete. Candidates must be natives of France, at least eighteen years of age. Travelling bursaries are also awarded.

THE COLLEGE OF FRANCE.

In this institution, the following courses of instruction on sciences allied to medicine are given, viz., Experimental Medicine, by Dr. Brown-Séquard; General Anatomy, by M. Ranvier; Natural History of Organised Bodies, by M. Marey; Comparative Embryogeny, by M. Balbiani; Organic Chemistry, by M. Berthelot; Mineral Chemistry, by M. Schützenberger. The Histological Laboratory is under the direction of M. Ranvier and M. Malassez, and is specially intended for the use of persons desirous of making original researches. The Physiological Laboratory, directed by Professor Marey and M. François-Franck, is open to persons who enter their names for the purpose with the secretary of the Faculty of Sciences, and who have a sufficient knowledge of Physiology to enable them to undertake experimental research. The researches may have reference to any department of physiology; but special attention is paid in this laboratory to the phenomena of circulation and motion, and their registration by suitable apparatus.

FREE MEDICAL INSTRUCTION.

In addition to the professors in the Faculty of Medicine, there are a number of lecturers whose instruction is recognised.

THE HOSPITALS OF PARIS.

Pupils of the Faculty of Medicine in Paris attend, without payment, the practice of any of the hospitals which they may select. The visits of the physicians and surgeons are generally made at an early hour—8.30 or 9 A.M. The following is a list of these institutions:

Hôtel Dieu, Parvis Nôtre Dame.—559 beds. *Physicians:* Drs. G. Sée, Hérard, Moutard-Martin, Gallard, Vulpian, and Empis. *Surgeons:* MM. Richet and Panas. The hospital possesses laboratories for histology, chemistry, and physiology; also a library for the use of the *internes*.

Hôpital de la Charité, 47 Rue Jacob.—504 beds. *Physicians:* Drs. Hardy (Clinical Professor), Féréol, Peter, Laboulbène, Desnos, and Bernutz; *Surgeons:* M.M. Trélat (Clinical Professor) and Desprès; *Obstetric Physician:* M. Budin. The library of this hospital contains a large number of works in anatomy, physiology, medicine, and surgery, including numerous theses.

Hôpital de la Pitié, 1 Rue Lacépède.—719 beds. *Physicians:* Drs. Lancereaux, Dumontpallier, Jaccoud, Brouardel, Cornil, and Audhoui; *Surgeons:* MM. Verneuil and Polaillon.

Hôpital Lariboisière, 2 Rue Ambroise Paré.—706 beds. *Physicians:* Drs. Bouchard, C. Paul, Proust, Siredey, Duguet, and Gérin-Roze. *Surgeons:* MM. Duplay (Diseases of the Eye) and B. Anger. *Obstetric Physician:* M. Pinard. Besides the ordinary clinical instruction, instruction is also given in ophthalmic surgery and diseases of the larynx.

Hôpital Saint-Antoine, 184 Faubourg Saint-Antoine.—621 beds. *Physicians:* Drs. Mesnet, Hayem, Dieulafoy, Sevestre, Gourand, Landrieux, and Tenneson; *Surgeons:* MM. Périer and Delens.

Hôpital Necker, 151 Rue de Sèvres.—418 beds. *Physicians:* Drs. Potain, Rigal, and Rendu; *Surgeons:* MM. Le Fort and Guyon. The Civiale museum, containing numerous calculi and specimens of diseases of the urinary organs, is attached to the hospital.

Hôpital Beaujon, 208 Faubourg Saint-Honoré.—422 beds. *Physicians:* Drs. Millard, Guyot, Gombault, and Fernet; *Surgeons:* MM. Tillaux and Léon Labbé; *Obstetric Surgeon:* M. Ribemont-Dessaignes. The hospital possesses a library containing 1,500 volumes, and a large number of theses.

Hôpital Cochin, 17 Faubourg Saint-Jacques.—249 beds. *Physicians:* Drs. Bucquoy and Dujardin-Beaumetz; *Surgeon:* M. Th. Anger; *Obstetric Surgeon:* M. Marchand. An obstetric department is attached to this hospital; but only a limited number of students are admitted to the morning visit.

Hôpital Laennec, 42 Rue de Sèvres.—628 beds. *Physicians:* Drs. Ball, Damaschino, Ferrand, and Legroux; *Surgeon:* M. Nicaise.

Hôpital Bichat, Boulevard Ney.—200 beds. *Physicians:* Drs. Gouguenheim and Huchard; *Surgeon:* M. Terrier.

Hospice de la Salpêtrière, Boulevard de l'Hôpital. 1,821 beds for old persons, and 720 for female lunatics. *Physicians:* Drs. Charcot and Luys; *Surgeon:* M. Terrillon; *Physicians to the Lunatic Department:* Drs. Falret and A. Voisin. There is a medical library, founded and supported by the *internes*; it contains more than 1,500 volumes. M. Charcot, one of the physicians, gives a course of instruction on diseases of the nervous system; and MM. Luys and Voisin give courses of mental pathology.

Hospice de Bicêtre.—1,843 beds for old persons, and 773 for male lunatics and epileptics (the latter number includes nearly 200 epileptics and backward children). *Physician:* Dr. Joffroy; *Surgeon:* M. Berger; *Physicians to the Lunatic Department:* Drs. Charpentier, J. Voisin, and Bourneville; *Resident Physician:* M. Deny. The library, which was founded in 1865, contains about 2,000 volumes.

Hôpital des Enfants Malades, 149 Rue de Sèvres.—562 beds. *Physicians:* Drs. Grancher, Labric, Simon, Ollivier, and Descroizelles; *Surgeon:* M. de Saint-Germain. There are wards for acute and chronic diseases, small-pox, and diseases of the eye.

Hôpital des Enfants Assistés, 74 Rue Denfert Rochereau.—685 beds. *Physician:* Dr. Blachez; *Surgeon:* M. Guéniot.

Hôpital Trousseau, 89 Rue de Charenton.—427 beds. *Physicians:* Drs. Triboulet, D'Heilly, Cadet de Gassicourt: *Surgeon:* M. Lannelongue.

Hôpital Saint-Louis, 40 Rue Bichat.—843 beds; of which 583 are occupied with cases of skin-disease, 28 with obstetric cases, and the rest with surgical cases. *Physicians:* Drs. Hallopeau, Lailler, Vidal, Guibout, Besnier, and Fournier; *Surgeons:* MM. Péan and Le Dentu; *Accoucheur:* M. Porak. General medicine is not taught in this hospital, but there are ample means for the special study of diseases of the skin, on which courses of theoretical and practical lectures are delivered. A museum containing several hundred models and drawings, illustrating diseases of the skin; to which is added M. Fournier's collection of illustrations of venereal diseases. The hospital is also rich in surgical cases.

Hôpital du Midi, 111 Boulevard du Port-Royal.—336 beds, devoted exclusively to the reception of cases of venereal disease. *Physician:* Dr. Mauriac; *Surgeon:* M. Horteloup.

Hôpital de Lourcine, 111 Rue de Lourcine.—243 beds. *Physicians:* Drs. Martineau and Hutinel; *Surgeon:* M. Pozzi. Students are admitted to the hospital by special ticket.

Hôpital Tenon, Rue de la Chine.—825 beds. Besides these, 190 beds can be added in cases of epidemics, &c. *Physicians:* Drs. Straus, Landouzy, Troisier, Hanot, Ducastel, and Dreyfus-Brissac. *Surgeons:* MM. J. Lucas-Championnière and Gillette. *Accoucheur:* M. Maygrier.

Maison d'Accouchement, 123 Boulevard du Port-Royal.—316 beds. *Physician:* Dr. Labadie-Lagrave; *Surgeon:* M. Tarnier; *Assistant-Surgeon:* M. Marchand. The hospital is employed exclusively for the education of midwives, and is not open to students of medicine. Attached to the hospital is a school for midwives.

Clinique d'Accouchement, 89 Rue d'Assas. *Surgeon:* M. Pajot.

Hospital Appointments in Paris: Concours.

The medical staff of each hospital in Paris consists of—1. Physicians, Surgeons, and Obstetric Medical Officers; 2. Prosectors; 3. *Internes* and *Externes* in Medicine and in Surgery; 4. *Pharmaciens*; 5. *Internes* in Pharmacy.

All the appointments in the hospitals of Paris are obtained by *concours*; and, when vacant, are eagerly competed for.

Each medical service is under the direction of a physician, and comprises also an *interne* and three or four *externes*. The organisation of the surgical departments is similar; but the number of pupils is greater, and there are generally two or three *internes* and five or six *externes*.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn to attend to urgent accidents and cases of illness.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases.

The *concours* for the *externat* generally takes place in October. Candidates must not be under 18, nor above 26 years of age. They must produce, 1. a register of birth; 2. a certificate of revaccination; 3. a certificate of good conduct, signed by the mayor of the commune in which the candidate is domiciled; 4. a certificate of at least one inscription in a Faculty of Medicine. The examination consists in, 1. an oral description of some subject in descriptive anatomy; 2. a similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. The maximum number of marks that can be gained by a candidate is 20 for each examination. The examination is conducted by four physicians and three surgeons of the central bureau.

The *concours* for the *internat* takes place nearly at the same time as that for the *externat*. Candidates must not be more than 28 years old, and must produce certificate of having performed the duties of *externe*, at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. This is followed by an oral examination in the same subjects; ten minutes being allowed for each answer after ten minutes of consideration. The maximum of marks obtainable for the written examination is 30; for the oral 20. At the end of the *concours*, the candidates are classified according to the number of marks; and the 35 or 40 first on the list are nominated *internes*.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honour. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honour. The successful candidate for the gold medal is entitled to two additional years of *internat*.

The *interne* who takes the first place in the *concours* also has the Arnal prize (books and instruments, value 500 *francs*), the Dusol prize (300 *francs*), the Godard prize (a box or case of instruments, value 200 *francs*); and, if he be attached to the surgical department of the Charité Hospital, the Barbier prize of about 1,250 *francs*. The Burlaud prize of 500 *francs* is awarded to one of the *internes* placed fifth, sixth, and seventh on the list; often, however, the three divide it. The Civiale prize, of the value of 1,000 *francs*, is given every second year to the best essay, by an *interne* on duty, on some point in the pathology of the genito-urinary passages.

The *internes* receive 600 *francs* for the first year, 700 *francs* the second year, 800 *francs* the third year, and 1,000 *francs* the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 *francs* yearly in lieu of lodging.

The *externes* at the central hospitals (Charité, Clinique, Hôtel-Dieu, and Pitié) are not paid; at those more distant from the centre of the city (Necker, Cochin, les Enfants Malades, &c.), they receive 300 *francs* yearly; at others more distant (Beaujon, Lariboisière, Saint-Antoine, Trousseau, Saint-Louis, 365 *francs* yearly; at the Maison de Santé, 300 *francs* yearly, and 300 *francs* for expenses; at the Tenon Hospital, in consideration of the distance, 50 *francs* monthly.

Candidates for the office of physician, surgeon, or obstetric officer at the hospitals, are admitted to *concours* on producing evidence of being natives of France, or naturalised, and of having had the degree of doctor of medicine for two years at least. They have to undergo a written and oral examination on the various branches of medicine and surgery.

GERMANY.

GRADUATION IN MEDICINE.

In the German Empire there are twenty Universities which possess a Medical Faculty and grant degrees in Medicine—namely, those of Berlin, Bonn, Breslau, Erlangen, Freiburg, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practise Medicine in this Empire unless he have passed the Staats-Examen. The law forbids any one to call himself *Arzt* (Physician) unless he have passed the State Board; or Doctor, unless he have obtained the degree after examination at some University. The Doctor who has not passed the State Board can hold no professional appointment, nor can he receive payment for his services. The practitioner who is neither doctor nor physician, if any mishap occur through his ignorance, is punished by fine and imprisonment. Most students pass both examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma of any kind can be obtained in Germany without a certificate of general education, obtained after examination at a gymnasium or public school in Greek, Latin, at least one Modern Language besides German, Logic, the Physical Sciences, and Mathematics. A candidate who cannot present this or an equivalent certificate must pass an examination in these subjects.

The number and character of professorial chairs in the Medical Faculties vary much in the different Universities; but in all there are three classes of teachers—professors, extraordinary professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the State or University, a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary varies from £120 to £480 annually, and is increased every ten years by the addition of from £20 to £50. The students' fees for the entire course vary in different schools from £36 to £52.

The extraordinary or assistant professors are appointed from among the *privat-docents*. As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

There are no independent schools in Germany, but young men of ability can establish themselves as private teachers, demonstrators, &c., in the immediate vicinity of the Universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. Their compensation is from students' fees, and they may not underbid the regular professor. At some Universities they are furnished with rooms, and given a share of the clinics; at others, they receive little or no assistance.

The course of study at the German Universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some, the course extends over four years. The following lectures are the least which will be accepted by any of the University Faculties, and may be taken in whatever order the student may wish. The courses occupy nine-and-a-half months in each year. For one year: Chemistry, six hours weekly; Physics, four hours weekly; Zoology and Comparative Anatomy, three hours weekly; Botany, three hours weekly; Mineralogy and Geology, two hours weekly; Anatomy, Histology, and Preparation of Specimens, ten hours weekly; Physiology and Laboratory Work, eight hours weekly; General Pathology, Pathological Anatomy, and Practical Work, six hours weekly; Pharmacology and Toxicology, two hours weekly; Obstetrics and Gynæcology, with Clinics, three hours weekly; Eye and Ear Clinics, Use of Ophthalmoscope, Operations, four hours weekly; Forensic Medicine, two hours weekly. For two years: Special Pathology and Medical Clinic at a Hospital, ten hours weekly; General and Special Surgery, Hospital Clinics, and Operations, ten hours weekly for one year, or five hours weekly for two years. This course may not be taken at the same time as the previous medical course.

REGULATIONS FOR THE STATE EXAMINATION.

The following are the regulations for the German Staats-Examen, as decided by an Order in Council, dated June 2, 1883. They came into force on December 1, 1883.

1. Permission to practise Medicine within the German Empire may be granted by the following bodies:—*a*. The central authorities of those confederate States which possess one or more universities—namely, the universities of the kingdoms of Prussia, Bavaria, Saxony, and Würtemburg, of the Grand Duchies of Baden, Hesse, and Mecklenburg-Schwerin, together with the universities of the Grand Duchy of Saxony and of the Saxon Duchies; *b*. the Ministry of Alsace-Lorraine.

2. Permission to practise is granted to any one who has passed a complete professional examination.

3. The examination may be conducted by a medical examining commission in an University of the German Empire. The commission, including the president and secretary, is chosen every year after consultation with the Medical Faculty of the University where the examinations are to be held.

4. The examinations commence in November, and are not continued beyond the middle of July in the following year. Applications for admission to the examination are received by the proper authorities up to November 1; delayed applications can only be granted for special reasons. Candidates who complete the prescribed course of medical study at Easter require, in order to be admitted to examination during the current examining year, a special permission, which is only granted under exceptional circumstances. The application for admission to examination must be accompanied by the following documents:—*a*. Evidence of a full course of instruction at a gymnasium of the German Empire; certificates from a gymnasium outside the Empire are only exceptionally received; *b*. Evidence of having gone through a course of medical study, of at least nine half-years' duration, in an University of the German Empire; certificates from foreign universities are recognised, wholly or in part, only in exceptional circumstances; *c*. Evidence that the candidate has passed the medical preliminary examination (*Verprufung*) in a German University, and has subsequently studied Medicine in an University during at least four half-years; *d*. Evidence that the candidate has, during at least two complete half-years, been occupied as medical officer (*praktikant*) in the surgical, medical, and obstetrical wards of a hospital; that he has himself completed at least two labours in the presence of his teacher as an assistant; and that he has acted as *praktikant* for a half-year in an ophthalmic hospital; *e*. A short account of the candidate's life. Within three weeks after receiving permission to present himself, the candidate must apply personally to the President of the Examining Committee, producing his permission and a receipt for the fees. No special notice of this is given to the candidate.

5. The examination embraces:—*a*. Anatomy; *b*. Physiology; *c*. Pathological Anatomy and General Pathology; *d*. Surgery and Ophthalmic Surgery; *e*. Medicine; *f*. Obstetrics and Gynæcology; *g*. Hygiene.

6. The examination in Anatomy includes:—*a*. A demonstration of the parts contained in one of the principal cavities of the body, or a dissection and demonstration of some region of the trunk or limbs; *b*. The making and demonstration of an anatomical preparation, to be followed by an examination in Osteology, and by one on the viscera, nerves, or vessels, of a preparation placed before the candidate; *c*. The making and demonstration of a microscopic preparation, and an examination in Histology.

7. In the Physiological examination the candidate has to give *vivâ voce* answers to two questions.

8. In the Pathological examination the candidate must—*a*. Make a complete examination of at least one of the three principal cavities of the body, and write a report on the same; *b*. Explain one or more pathological preparations, one at least of which must be microscopic, and also answer a question in general Pathology, and one in Pathological Anatomy.

9. Each of the divisions *a*, *b*, *c*, and *g* of the examination is conducted by one examiner. Not more than four candidates can be examined at the same time in any division.

10. The Surgical and Ophthalmological examination embraces four parts, three relating to General Surgery, and one to Diseases of the Eye. The three surgical portions of the examination are conducted by two examiners in the surgical wards of a large general hospital, or in an University clinic, or on the patients in a polyclinic. *a*. On each of two consecutive days the candidate has to examine a patient in the presence of an examiner, and to give the previous history, diagnosis, prognosis, and treatment of the case; the record is to be given to the examiner, and, on the same day, the candidate must write at his home a critical commentary on the case, and

deliver it next morning, dated and signed, to the examiner. *b.* He must, during the next seven days, visit each of the two patients at least once a day, or, if the examiner require, twice daily, and keep, in a form which is supplied to him, a daily report of the progress of the case; if the patient die before the end of the seven days, he must write a commentary, with an account of the *post mortem* examination. If the patient be dismissed before the end of the seven days, the examiner may determine whether the candidate shall examine another patient. The candidate is also required to give evidence, on other patients, of his ability to recognise surgical diseases, and of his skill in performing minor surgical operations. *c.* He must undergo a *vivâ voce* examination in operative surgery, perform on the dead body an operation, such as the ligature of an artery, and show that he possesses a knowledge of instruments adequate for a practising surgeon. *d.* He must be examined orally and practically on fractures and dislocations. Two examiners must be present at *c* and *d.* Each examiner must be present at least three times during the examination (*b*), to go through the report with the candidate, and, if necessary, require additions. In the clinical portion of examination (*a* and *b*) not more than three candidates, in the technical part not more than six, can be examined at the same time. The examination in Ophthalmology is conducted by one examiner, in whose presence the candidate must examine and report on a case of disease of the eye. He must visit the patient for three subsequent days, and during this time prove, on other cases, that he possesses a knowledge of the principles of ophthalmic surgery. Three candidates at most are admitted simultaneously to this examination.

11. The Medical Examination is conducted, as regards the clinical portion, on the same plan as the surgical; and the candidate has to answer, in writing, in the presence of an examiner, questions on prescribing, to state the maximal doses of medicinal substances shown to him, and to give oral proof that he has an adequate knowledge of Pharmacy and Toxicology. This portion of the examination may be entrusted to a third examiner. Not more than three candidates can be examined at the same time.

12. The Obstetric and Gynæcological examination is conducted by two examiners in a public lying-in institution. *a.* The candidate must, in the presence of the examiner or of an assistant medical officer of the institution, examine a woman in labour, and state the period of labour, the position of the child, the prognosis, and the proper proceeding to be followed; in cases of normal, and, if required, of abnormal labour, he must apply the necessary aid, including operation; and, after the labour is completed, he must write within twenty-four hours a critical account of the case and hand it to the examiner the next day. *b.* During the next seven days he must visit the woman twice daily, and must draw up a complete report on the case of the mother and child, and on any diseases by which they may be affected. During the same time he will have opportunities of proving his knowledge of pregnancy and labour and of the diseases of women. If the woman who has been confined die before the end of seven days, he must draw up a critical report of the case, with an account of the necropsy. *c.* The candidate must, in the presence of both examiners, show his acquaintance with recognised obstetric operations, and must, on the phantom, make the diagnosis of the various abnormal presentations, perform turning, and apply the forceps. Not more than one candidate can be clinically examined on the same patient; and, in the technical examinations, not more than four can be examined simultaneously.

13. In Hygiene, the candidate has to give oral answers to two questions put by one examiner in the presence of the president. Each candidate is examined for not longer than fifteen minutes.

14. The questions to be put in the Sections 6, *b*, *c*, 7, 8*c*, 10A *c*, *d*, and 13 are determined by lot. If necessary, the examiner may put other questions bearing on the subject of examination.

15. Students of medicine are admitted to the first three and the seventh divisions of the examination; those who have attended or held office in the respective clinics are admitted to the clinical portions.

16. A special report is made of the result of each division of the examination; with, if the judgment be 'insufficient' or 'bad,' a short statement of the grounds of the decision.

17. The questions and the patients in each examination are seen by the candidate for the first time at its commencement. As a rule, an interval of not more than eight days comes between two divisions of the examination. Candidates for admission to the examination in Physiology must have passed that in Anatomy; and both these must have been passed before admission to the remaining portions. The order in which these may be taken is determined by the president; but the examination in Obstetrics and Gynæcology must not immediately follow that in Pathology. If a candidate fail in any one of the subjects except Anatomy and Physiology, he may either present himself at once for examination in the other subjects, or defer it until he is again examined in the subject in which he has failed.

18. The result of the examinations is denoted by the terms 'very good,' 'good,' 'sufficient,' 'insufficient,' and 'bad.' A candidate on whom one of two examiners makes the report 'insufficient,' or 'bad,' is rejected.

19. After the completion of the examinations in each division, the reports are delivered to the president, who sums up the results.

20. If the result of the examination in any one division or part of a division be 'insufficient' or 'bad,' the candidate must be again examined in that subject. If the decision on an entire division be 'insufficient,' the candidate is not re-admitted to examination under three months: if 'bad,' not under six months. If the candidate fail in a portion of one of the divisions, the interval must be at least six weeks for 'insufficient,' and at least three months for 'bad.' In all cases, the re-examinations must be undergone in the next following examination-year at latest; otherwise the previous portions of the examination must be repeated. Exceptions are allowed only for special reasons. A candidate rejected at the second examination is not again admitted to examination except under special circumstances.

The fees for the examinations amount to 200 marks (about £10); namely, Anatomy, 20; Physiology, 12; Pathology, 16; Surgery and Ophthalmology, 57; Medicine, 35; Obstetrics and Gynæcology, 24; Hygiene, 6; Expenses, 30.

Preliminary Medical Examination.

The following are the regulations for the examinations referred to in Section 4 *c.* of the preceding.

1. The preliminary medical examination is conducted by the examining board of the University in which the candidate has matriculated. Exceptions can only be allowed by the Chancellor of the Empire acting in conjunction with the central authority. The examining board consists of the Dean of the Medical Faculty as president, and the teachers of the subjects of examination.

2. The president has the management of the examination. As many examinations are held in each academical half-year as will meet the demands. Applications made later than fourteen days before the end of the lectures have no claim to consideration during the current half-year. Not more than four candidates are admitted to any one examination.

3. Applications for admission to examination must be addressed to the president, and must be accompanied by (*a*) a certificate of maturity from a gymnasium, (*b*) evidence of professional study during at least four half-years in a German University. The regulations concerning recognition of foreign gymnasia and universities are similar to those for the Staats-Examen.

4. If the student be admitted, and have paid the fee, he receives through the president at least two days' written notice of the examination. If he do not appear at the right time, or fail to appear at all, half the fee is forfeited, and he is put back to one of the next examination terms.

5. The examination is oral and public; the president being present throughout. The student is examined in Anatomy, Physiology, Physics, Chemistry, and Botany, by the teachers of the respective subjects, and in Zoology by a teacher of Anatomy or of Zoology. The examination in each subject is of fifteen minutes' duration. Candidates who have obtained the degree of doctor after examination in the Natural Sciences, are examined only in those subjects which were not included in the previous examination.

6. The circumstances and results of the examination are reported by each examiner to the president and other members of the Commission.

7. The result of the examination is denoted as 'very good,' 'good,' 'sufficient,' 'insufficient,' or 'bad.' If the decision be 'insufficient' or 'bad,' the candidate must be again examined in the subjects in which he has failed. Botany and Zoology are counted together in estimating the result. The interval of time that must elapse before the candidate can be again examined varies from two to six months. It is fixed by the president, with the consent of the examiner.

8. The re-examination may take place in another University, if the candidate have matriculated therein.

9. Within two days after the end of each term of examination, the president must communicate to the University authorities the result of the examination. A certificate of the result as regards each subject is given to the candidate; and if he be rejected in any subject, the time which must elapse before re-examination is stated.

10. The fee for the examination and certificate is 36 marks. Doctors in Philosophy or Natural Science (*see* Section 5) pay only the fees of the president (5 marks) and of the member of the board by whom they are examined. At re-examination, the candidate has to pay the fees of the president and of the member by whom the examination is conducted.

UNIVERSITY OF BERLIN.*

THE conditions for promotion to the Doctorate of Medicine, Surgery, and Midwifery, at the Royal Frederick William University in Berlin, are as follows.

1. Candidates must have studied medicine at least four years in one or more regularly constituted Universities. Universities and Medical Colleges abroad are deemed equivalent to the Universities in Germany. 2. Candidates under 30 years of age who have not matriculated at this University, or who have left previously to their application for promotion, must matriculate again. This can be done free of cost. Both these and matriculated students of this University must, before making application for promotion, take out a preliminary certificate of having left, and will not receive the real certificate until after promotion. 3. The candidate has to make application to the Dean, handing in at the same time the documents mentioned under 1 and 2. He has then to pass a written and verbal preliminary examination before the Dean, before being admitted to the *examen rigorosum.* The verbal examination is generally conducted in German or Latin, and extends to all branches of medicine. At the written examination, an *ex tempore* essay must be written, without any assistance, in a given time. 4. After the preliminary examination, the Dean lays before the Faculty the documents having reference to the personality and the course of studies of the candidate, the judgment respecting the preliminary examination, and the essay composed thereat. Should that body decide for admission, the Dean will appoint as early a time as possible for the *examen rigorosum.* 5. The *examen rigorosum* takes place before six members of the Faculty, is verbal only, and is concluded at one sitting, each of the examiners questioning the candidate for a quarter of an hour. No branch of medicine and surgery is excluded. It is generally held in German, but, if necessary, in Latin. If a candidate be rejected, six months must elapse before re-admission. 6. After this, the candidate must present a German or Latin dissertation. The essay must be entirely original; and the candidate must declare on oath in writing that he has composed it entirely himself. If the manuscript be pronounced good by the Faculty, the candidate will have to get printed, at his own expense (about 85 *marks*), by a certain printer, a prescribed number of copies. It must consist of at least two quires, and give evidence of a good scientific knowledge. To this must be annexed a brief *curriculum vitæ*, and at least three theses approved by the Dean. 7. After this, follows the public discussion in the Aula of the University. The discussion has reference both to the dissertation and to the theses. Next, the opponents chosen by the candidate, who must be at least three in number, divide on the subject. Their names must appear on the title-page of the dissertation. Afterwards, any one belonging

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* For much of the information in this and subsequent pages, we are indebted to Dr. Hardwicke's *Medical Education and Practice in all Parts of the World.*

to the University is at liberty to oppose. Both the candidates and the opponents must be dressed in black. The discussion is either in German or in Latin. The Minister of Education may allow the use of another language, and may also dispense with the discussion. 8. After the discussion is ended, the oath-taking and promotion of the candidate as a Doctor of Medicine, Surgery, and Midwifery takes places. After the ceremony of promotion is completed, the Dean delivers the diploma to the newly created doctor, who inscribes his name in the book of the Faculty. The expense of making out the diploma (15 *marks*) is borne by the candidate. A copy of it is fixed on the blackboard of the Faculty, and a certain number of copies are delivered to the Registrar of the University, for distribution. Promotion *in absentiâ* can on no account take place. 9. Four hundred and forty *reich-marks* (£22) must be paid to the Dean as fees for the Degree of Doctor in Medicine, of which 221 *marks* must be paid on application and are forfeited after the *examen rigorosum*, if the candidate be unsuccessful. The second portion (204 *marks* for the Faculty and 15 *marks* for the University library) may be paid either at the same time with the other, or within the period between the *examen rigorosum* and the promotion. In addition, the candidate has to pay expenses of printing the dissertation and diploma. 10. The shortest time in which the whole of the proceedings for obtaining a doctor's degree can be gone through is ten days. In this case, however, the dissertation must be delivered ready for printing to the Dean at the first application, and the other business of the Faculty must be such as permits them to proceed at once to the examinations.

The Medical Faculty of this University consists of the following professors, with between forty and fifty *docents* or private teachers. *Ordinary Professors:* W. Waldeyer, Anatomy; A. Bardeleben, Surgery and Clinical Surgery; R. Virchow, Pathology; E. Du Bois-Reymond, Physiology; A. Hirsch, Medicine and History of Medicine; E. Leyden, Medicine and Clinical Medicine; C. Gerhardt, Medicine and Clinical Medicine; E. von Bergmann, Surgery and Clinical Surgery; C. Schröder and A. Gusserow, Obstetrics and Gynæcology; O. Liebreich, Materia Medica; C. Schweigger, Diseases of the Eye and Ophthalmic Clinic; C. Westphal, Psychology and Psychiatric Clinic; R. Koch, Hygiene. *Extraordinary Professors:* E. Henoch, Diseases of Children; E. Gurlt, Practical Surgery; C. Liman, Forensic Medicine; C. Skrzeczka, Hygiene and Medical Police; J. Meyer, Medicine; R. Hartmann, Anatomy; G. Lewin, Diseases of the Skin and Syphilis; H. Jacobson, Medicine; H. Munk, Physiology; C. A. Ewald, Medicine; A. Lucae, Aural Surgery; E. Salkowski, Chemistry; G. Fritsch, Physiology; O. Fräntzel, Medicine; H. Senator, Medicine; F. Busch, Surgery; H. Kronecker, Physiology; H. Fasbender, Gynæcology; H. L. Schöler, Ophthalmic Surgery; J. Hirschberg, Ophthalmic Surgery; E. Küster, Surgery; A. Christiani, Medical Physics; M. Bernhardt, Medicine; E. Sonnenburg, Surgery; E. Schweninger, Diseases of the Skin; J. Wolff, Surgery; E. Mendel, Diseases of the Nervous System; F. Falk. The following professors also give instruction in subjects connected with medicine in the Philosophical Faculty. *Ordinary Professors:* L. Schwendener, Botany; H. Helmholtz, Physics; A. W. Hofmann, Chemistry; F. E. Schulze, Zoology; A. W. Eichler, Botany; C. Rammelsberg, Chemistry.

The institutions for Clinical Teaching connected with the University are—the Institute for Clinical Surgery (Director, Dr. Von Bergmann); the Medical Polyclinic (Dr. Meyer); the Obstetric Clinic (Dr. Schröder): the Ophthalmic Clinic (Dr. Schweigger); the Aural Clinic (Dr. Lucae). In the Charité Hospital are the Medical Clinics (Dr. Gerhardt and Dr. Leyden), the Surgical Clinic (Dr. Bardeleben), the Obstetric Clinic (Dr. Gusserow), the Gynæcological Clinic (Dr. Gusserow), the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Henoch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; The Physiological Laboratory under that of Professor Du Bois-Reymond; the Chemical Laboratory under that of Professor Hofmann; the Pharmaceutical Laboratory under that of Professor O. Liebreich; the Physical Institute under that of Dr. von Helmholtz; and the Hygienic Institute under that of Dr. R. Koch.

UNIVERSITY OF BONN.

A DEGREE in Medicine, Surgery, and Midwifery is granted only under the following conditions:

1. An examination in all branches of Medicine and Surgery of about three hours' duration in the German language; 2. A written scientific dissertation in German or Latin; 3. Public defence of the dissertation in German or Latin; 4. Fee for the examination and diploma, 360 *marks* (£18), which must be paid prior to examination.

The following are the Professors in the Medical Faculty of this University. *Ordinary Professors:* C. Binz, Materia Medica; F. Trendelenburg, Surgery; C. Köster, Pathology; A. de la Valette St. George, Anatomy and Histology; F. von Leydig, Comparative Anatomy; E. Pflüger, Physiology; H. Rühle, Medicine; T. Sämisch, Diseases of the Eye; G. Veit, Obstetric Medicine and Gynæcology; W. Nasse, Clinical Psychiatry. *Extraordinary Professors:* C. Finkelnburg, Mental Diseases; J. Doutrelepont, Surgery; C. von Mosengeil, Surgery; H. Schaaffhausen, Physiology; M. Nussbaum, Anatomy and Histology; H. Walb, Diseases of the Eye and Ear; D. Finkler, Medicine; F. Fuchs, Medical Physics; H. Ribbert, Medicine and Pathology.

Connected with the University are medical, surgical, obstetric, and ophthalmic clinics; an anatomical theatre and museum, and physiological, pathological, pharmacological, physical, botanical, and chemical institutes.

UNIVERSITY OF BRESLAU.

THE following Professors belong to the Medical Faculty of this University. *Ordinary Professors:* A. Biermer, Medicine; E. Ponfick, Pathology; H. Fischer, Surgery; R. Förster, Ophthalmic Surgery; W. Filehne, Materia Medica and Therapeutics; C. Hasse, Anatomy; R. P. H. Heidenhain, Physiology; H. Fritsch, Obstetrics and Gynæcology. *Extraordinary Professors:* L. Auerbach, Comparative Anatomy; H. Cohn, Ophthalmology; R. Gscheidlen, Physiology and Physiological Chemistry; I. Klopsch, Surgery; A. Neisser, Diseases of the Skin and Syphilis; E. Richter, Surgery; R. Voltolini, Diseases of the Ear; L. Hirt, Forensic Medicine and Hygiene; H. Sommerbrodt, Medicine; O. Soltmann, Diseases of Children; H. Magnus, Ophthalmology; G. Born, Anatomy; C. Wernicke, Psychiatry.

The University possesses anatomical, physiological, pathological, pharmaceutical institutes, and clinics of medicine, surgery, obstetrics, ophthalmic surgery, syphilis and skin-diseases, and mental diseases.

UNIVERSITY OF ERLANGEN.

THE following are the regulations to be observed by candidates for the degree of Doctor of Medicine.

1. Candidates must announce their intention to the Dean of the Faculty of Medicine, and present: *a.* evidence of having gone through the curriculum in a German gymnasium, or proof of equivalent general education; *b.* proof of having studied medicine in one of the German Universities; or in a corresponding medical school abroad, during at least three years; *c.* a thesis, composed by the candidate, on some subject in medicine or natural science, with a written declaration, on word of honour, that the work is absolutely the candidate's own. 2. If the dissertation be judged to be of sufficient merit, the candidate is admitted to an oral examination, which is conducted in the German language. 3. After the conclusion of the oral examination, the examiners decide on the result. If the decision be favourable, the degree of Doctor is at once conferred. 4. The candidate, if his dissertation be approved, must have it printed at his own expense. 5. The candidate must pay a fee of 300 *marks* (equal to about £15 10*s.*) for the granting of the Doctor's degree, and must also deliver 150 copies of his dissertation to the Faculty. 6. If the candidate fail to pass the examination, half of the fee is returned to him.

The Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. von Gerlach, Anatomy; F. A. Zenker, Pathology and State Medicine; W. Heineke, Surgery; I. Rosenthal, Physiology; A. Strümpell, Practice of Medicine and Clinics; F. Penzoldt, Ophthalmology; P. Zwefel, Midwifery; O. Eversbusch. *Extraordinary Professors;* F. W. Hagen, Psychological Medicine; L. Gerlach, Anatomy; R. Fleïscher, Medicine.

In connection with the University are the following institutions: the University Hospital, with medical, surgical, obstetric, psychiatric, and ophthalmic clinics; an anatomical, a physiological, and a pathological institute.

UNIVERSITY OF FREIBURG.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Midwifery. The following are the conditions to be observed.

1. A certificate must be produced showing the respectability of the candidate, and also the amount of his education, both prior to and since his admission as a medical student. 2. A scientific dissertation must be written in German or Latin. 3. A fee of 300 *marks* (£15) must be paid. In case of rejection, the candidate will receive half the fee; and when he presents himself for examination again, he pays only that amount—viz., 150 *marks.* Should these conditions be complied with, and the thesis be deemed satisfactory, the candidate is admitted to a *vivâ voce* examination, conducted in German, on the following subjects: Anatomy, Materia Medica and Toxicology, Physiology, Medicine, Surgery, Pathological Anatomy, Midwifery, and Ophthalmology. If a candidate have already passed an examination as Physician before a German Commission of Examiners, the number of subjects may be reduced. If the examination be passed, one of the following grades of honour is conferred: (1) *Summâ cum laude;* (2) *Insigni cum laude;* (3) *Cum laude.*

The Medical Faculty of the University is thus constituted. *Ordinary Professors:* A. Ecker, Human and Comparative Anatomy; R. Maier, Pathological Anatomy and State Medicine; A. Hegar, Midwifery; F. Hildebrand, Botany; W. Manz, Ophthalmic Surgery; Ch. Bäumler, Medicine; G. F. L. Thomas, Materia Medica and Medicine; P. Kraske, Surgery; E. Baumann, Physiological Chemistry; R. Wiedersheim, Anatomy; J. von Kries, Physiology. *Extraordinary Professors:* A. Schinzinger, Surgery; H. Emminghaus, Psychiatry; J. Strasser, Anatomy; M. Schottelius, Pathology; W. Hack, Syphilis and Diseases of the Skin; J. von Rotteck; A. Kast, Medicine.

The University Library contains 250,000 volumes. There are a chemical laboratory and institutions for the practical study of anatomy, pathology, physiology, &c., and medical, surgical, obstetric, and ophthalmic clinics.

UNIVERSITY OF GIESSEN.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Obstetrics, which can only be obtained on the following conditions.

1. A *curriculum vitæ*, written by himself, must be sent to the Faculty by the candidate; also a certificate of gymnasial maturity, and a certificate of at least three years' medical and surgical study at an university or a medical institution. If the candidate be not a native of Germany, he must produce a certificate of sufficient preliminary studies from his own country. 2. The candidate must present a dissertation on some medical subject, written in German or Latin, together with a declaration in his own handwriting that the dissertation is his own composition; or a previously published treatise or literary production may be substituted. 3. The whole of the documents are laid before the Rector and the Chancellor. 4. If no objection be made, and the candidate have paid the promotion fees, the dissertation is judged by a referee; and, if he declare the work to be satisfactory, the candidate is admitted to *vivâ voce* examination. 5. This examination takes place in the German language, and lasts two or three hours. It is held in public, except when the candidate is advanced in age, or in a few other cases. 6. The examination embraces Anatomy, Physiology, Pathological Anatomy, Histology, Pathology, and Medicine, Materia Medica and Therapeutics (including Toxicology), Surgical Pathology and Surgery, Forensic Medicine, and Obstetrics. 7. Immediately after the conclusion of the examination, the result is decided on by the President and examiners, and at once made known to the candidate. The examination is not passed, when two or more members of the Faculty declare the result to have been unsatisfactory. The degree is granted either *cum laude*, *magnâ cum laude*, or *summâ cum laude.* 8. The approved dissertation must be

printed and published, and the appointed number be presented to the Faculty before the promotion takes place; except when the candidate has already handed in a printed treatise. 9. Promotions to M.D. *in absentiâ* do not take place at this University, except in the case of degrees granted *honoris causâ*, by the unanimous decision of the Faculty, to men who have rendered some great service to the science of medicine. 10. The fee for promotion is 440 *marks* (£22), which must be paid at the time of the petition for admission. If the candidate be not admitted to the verbal examination, 100 *marks* are retained. If the verbal examination be not passed, half the fees are forfeited; but, if the candidate present himself again, he has only to pay half the fees.

The following are the professors in the Faculty of Medicine in the University. *Ordinary Professors:* H. Bose, Surgery; J. Wilbrandt, Forensic Medicine and Hygiene; C. Eckhard, Physiology; F. Riegel, Medicine; R. Kaltenbach, Obstetrics and Gynæcology; G. Pflug, Veterinary Medicine; F. W. von Hippel, Ophthalmic Surgery; C. Gæhtgens, Materia Medica; E. Boström, Pathological Anatomy; *Extraordinary Professors:* F. Birnbaum, Obstetrics; F. Eichbaum, Histology and Veterinary Medicine. Dr. L. Winckler teaches Veterinary Medicine.

The University Library contains 140,000 volumes. There are an academic hospital, with medical, surgical, and ophthalmic clinics, a lying-in institution, a chemical laboratory, a physiological, a pathological, and a pharmacological institute.

UNIVERSITY OF GŒTTINGEN.

A DEGREE in Medicine, Surgery, and Obstetrics is granted under the following conditions.

1. A written essay must be sent in on any medical subject chosen by the candidate. 2. If the essay be satisfactory, the student is admitted to a *vivâ voce* examination, which lasts a few hours, and is held in German or Latin, at the option of the candidate. 3. A fee of 439 *marks* (£21 19*s*.) must be paid to the Medical Faculty prior to examination. 4. The subjects of examination are Anatomy and Morbid Anatomy, Physiology, Pharmacology, General Pathology and Medicine, Surgical Pathology and Surgery, Toxicology, Medical Jurisprudence, and Obstetrics. If the candidate be successful, he receives a diploma, and promises to hold his academical honour with dignity.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* F. S. Merkel, Anatomy; F. Wöhler, Chemistry; G. Meissner, Physiology; H. Schwartz, Midwifery and Diseases of Women; L. Meyer, Psychological Medicine; Th. Leber, Ophthalmic Surgery; W. Ebstein, Medicine; W. Marmé, Materia Medica; F. König, Surgery; J. Orth, Pathology; C. Flügge, Physiology. *Extraordinary Professors:* C. F. Lohmeyer, Surgery; J. Rosenbach, Surgery; W. Krause, Physiology; E. F. G. Herbst, Physiology; T. Husemann, Materia Medica and Toxicology; R. Deutschmann, Ophthalmic Surgery; O. Damsch, Medicine; K. Bürkner, Diseases of the Ear.

The following institutions are connected with the Medical Faculty: institutions for teaching animal and vegetable physiology and pharmacology, and pathology; the Ernst-August Hospital, with medical, surgical, and ophthalmic clinics; a lying-in hospital; a psychiatric clinic in the Lunatic Asylum; a chemical laboratory; and a veterinary institute.

UNIVERSITY OF GREIFSWALD.

THE Medical Faculty of this University consists of the following professors, with teachers. *Ordinary Professors:* J. Budge, Anatomy, and Physiology; H. C. A. Pernice, Midwifery and Diseases of Women; F. Grohé, Pathological Anatomy; F. Mosler, Medicine; H. Helferich, Surgery; L. Landois, Physiology; R. Schirmer, Ophthalmic Surgery; H. Schulz, Materia Medica; F. Sommer, Anatomy. *Extraordinary Professors:* C. Eichstedt, Midwifery, Diseases of the Skin, and Syphilis; W. Häckermann, Forensic Medicine and Hygiene; R. Arndt, Psychology and Nervous Diseases; P. Krabler, Diseases of Children; F. Rinne, Surgery; the Baron von Preuschen von Liebenstein, Midwifery and Diseases of Women; A. Solger, Anatomy; R. Grawitz.

The University Hospital contains medical, surgical, ophthalmic, and obstetric clinics.

UNIVERSITY OF HALLE.

THE following are the regulations for the medical degree.

1. Application for admission to examination must be made to the Dean, and at the same time must be presented:—(*a*) *curriculum vitæ*; (*b*) certificate of maturity from a gymnasium; (*c*) certificate of having passed a *tentamen physicum* at least two years previously; (*d*) certificates of having passed, in Universities, at least eight medical scholastic half years. 2. On making application, 360 *marks* must be paid to the Dean for the examinations and the promotion, besides which, 12 *marks* must be paid before the promotion to the Secretary of the University. 3. The examinations are held on two consecutive days, by the regular professors of the Faculty. 4. After passing his examination, the candidate must compose a treatise on some subject in medical science, and deliver it to the Dean, together with theses to be publicly discussed, and the *curriculum vitæ*, for examination and approval; the same when printed (which must be done at the candidate's expense) must fill at least two quires. 5. The candidate has to request all the examiners personally to be present at the examination, likewise the members of the Faculty. 6. The candidate defends his treatise and the theses against two previously appointed opponents; after which, those present are also called upon to join in the discussion. After the discussion is ended, the doctoral oath is administered, and the diploma delivered to the candidate. 7. Whoever fails to pass the examination, which includes all branches of medicine and surgery, receives back from the fees paid (40¼ *marks*). 8. The time for taking the degree is left to the candidate. He must not, however, exceed one year from the time of passing the examination to the taking of the degree, else he will have to submit to re-examination, and must pay again all the fees.

The following professors, with several private teachers, constitute the Medical Faculty of this University. *Ordinary Professors:* L. Krahmer, Materia Medica and Forensic Medicine; Th. Weber, Medicine; R. Olhausen, Obstetrics and Gynæcology; Th. Ackermann, Pathology; H. Welcker, Anatomy; R. von Volkmann, Surgery; J. Bernstein, Physiology;

A. Gräfe, Ophthalmic Surgery; E. Hitzig, Psychological Medicine; K. Eberth, Histology. *Extraordinary Professors:* H. Schwartze, Diseases of the Ear; E. Kohlschütter, Medicine; E. Harnack, Animal Chemistry and Biology; A. Seeligmüller, Diseases of the Nervous System; R. Pott, Diseases of the Skin; A. Genzmer, Surgery; B. Küssner, Medicine; M. Oberst, Surgery; E. Schwarz, Obstetrics.

The University library contains 100,000 volumes. Connected with the University are a chemical laboratory, a botanical garden, a zoological museum, an anatomical theatre and zootomical museum, a lying-in institution, a medico-chirurgical hospital, and physiological, pathological, and pharmaceutical laboratories.

UNIVERSITY OF HEIDELBERG.

THE following are the regulations to be observed for graduation in medicine in this University.

1. No evidence of previous study is required. 2. The same demands are made of all candidates; the only difference is that the oral examination is shortened, if evidence be produced that the candidate has undergone the German Staats-Examen. 3. The subjects of examination are Anatomy, Physiology, Pathological Anatomy, Materia Medica (Pharmacognostics, Pharmacodynamics, and Toxicology), Medicine, Surgery, Midwifery, and Ophthalmic Surgery. 4. A candidate may select one of these as the principal subject of examination. All the other subjects then become secondary. 5. The examination is oral and written. The oral examination is conducted in the German language. 6. The written part of the examination consists of a medical dissertation in German or in Latin, or a scientific publication by the candidate, which must be given in before the oral examination. 7. The oral examination comprises the principal subject chosen by the candidate, and a certain number of the secondary subjects. If a state examination have been passed in the German Empire the candidate is examined in the principal subject, and in three of the secondary subjects, selected by himself; otherwise, he is examined in five secondary subjects. Of these, three are fixed—Anatomy, Physiology, and Pathological Anatomy; the other two may be chosen by the candidate. 8. The candidate is examined on the principal subject for thirty minutes, on each secondary one for fifteen or twenty minutes. 9. On the result of the entire examination, three notes are granted: *summâ cum laude, insigni cum laude, cum laude.* 10. When the diploma is delivered to the candidate by the Dean, he has to give his hand in promise that he will bear his academical dignity with honour. 11. The cost of the examination, exclusive of that of the diploma, amounts in all to 414 *marks* (about £22 5*s.*), which must be paid before the commencement of the examination. Of this sum, if the oral examination be not passed, 179 *marks* (about £9) are returned.

The Medical Faculty consist of the following professors, with several teachers. *Ordinary Professors:* F. Kehrer, Midwifery; W. Delffs, Chemistry; C. Gegenbaur, Human and Comparative Anatomy; W. Kühne, Physiology; O. Becker, Ophthalmic Surgery; Th. von Dusch, Medicine; W. Erb, Medicine; J. Arnold, Pathology; V. Czerny, Surgery; C. Fürstner, Physiological Medicine. *Honorary Professor:* A. Nuhn, Human and Comparative Anatomy. *Extraordinary Professors:* H. Oppenheimer, Materia Medica; S. Moos, Diseases of the Ears; F. Knauff, Forensic Medicine and Hygiene; H. Lossen, Surgery; A. Weil, Medicine and Diseases of the Skin, and Syphilis; F. Schultze, Diseases of the Nervous System; A. Jurasz, Diseases of the Throat; G. Ruge, Anatomy; A. Ewald, Histology; J. Steiner, Physiology.

In connection with the University are a hospital, with medical, surgical, and ophthalmic clinics, an institution for diseases of the ear, a lying-in institution, anatomical, pathological, physiological, and zoological institutes, two chemical laboratories, and a botanical garden.

UNIVERSITY OF JENA.

THE Faculty of Medicine of this University grants a degree in Medicine, Surgery, and Obstetrics, the conditions for which are as follow.

1. A certificate must be given as to the extent of medical studies, and the period of time which has elapsed since their completion (at least six terms). 2. Satisfactory evidence must be given as to character, from the neighbouring head office of police. 3. Payment of examination and promotion fees must be made to the amount of 141 *thalers* (about £22.) If the examination be not passed, the promotion fees and 52 *thalers* are returned. The examination is held in the German language only. It comprises all branches of medicine—viz., Anatomy, Physiology, Histology, General Pathology, Pathological Anatomy, Special Pathology, Medicine, Therapeutics, Surgery, Obstetrics, &c. When the examination is passed, the student has to give in a written essay on any subject of medical science, chosen by himself, written in German or in Latin. A dispensation from the Latin or German disputation may be granted, when the examination is very satisfactorily passed. After the essay is printed, and when the public disputation is over, the making out of the medical diploma takes place.

The Medical Faculty of this University is constituted as follows. *Ordinary Professors:* F. Ried, Surgery; H. Braun, Surgery; B. Schultze, Obstetrics; W. Müller, Pathology; W. Preyer, Physiology; O. Hertwig, Anatomy; M. J. Rossbach, Medicine; H. Kuhnt, Ophthalmology. *Honorary Professor:* M. Siedel, Materia Medica. *Extraordinary Professors:* P. Schillbach, Diseases of the Eye and Ear; C. Frommann, Physiology and Histology; C. Bardeleben, Anatomy; — Kessel, Diseases of the Ear; P. Fürbringer, Diseases of the Skin and Syphilis; O. Kustner, Obstetrics and Gynæcology; O. Binswanger, Psychiatry; F. Krukenberg, Medical Chemistry; — Unverricht; — Gärtner.

Connected with the University are the Grand-Ducal hospital, lying-in institution, and lunatic asylum; anatomical, zoological, physiological, pathological, and chemical laboratories and museums, &c.

UNIVERSITY OF KIEL.

THE following are the conditions for obtaining the medical degree: 1. The presentation, on application, of (*a*) *curriculum vitæ*; (*b*) certificate of medical studies; (*c*) a scientific treatise; 2. a written examination; 3. a verbal examination before the Faculty; 4. payment of 360 *marks*.

In this University the Medical Faculty consists of the following professors, with five private teachers.

Ordinary Professors: R. Werth, Obstetrics and Gynæcology; F. Esmarch, Surgery; H. Quincke, Medicine; V. Hensen, Physiology; A. Heller, Pathology; C. Völckers, Diseases of the Eye; W. Flemming, Anatomy. *Extraordinary Professors:* J. Bockendahl, Forensic Medicine; G. J. F. Edlefsen, Medicine; F. Petersen, Surgery; A. Pansch, Anatomy; F. A. Falck, Materia Medica.

There are a medico-chirurgical hospital, containing medical, surgical, and ophthalmic clinics, a lying-in institution, and laboratories and museum in connection with the several subjects taught.

UNIVERSITY OF KŒNIGSBERG.

The Medical Faculty of this University consists of the following professors, with several private teachers. *Ordinary Professors:* L. Hermann, Physiology; R. Dohrn, Obstetrics and Gynæcology; L. Stieda, Anatomy; E. Neumann, Pathology; C. Schönborn, Surgery; B. Naunyn, Medicine; J. Jacobson, Ophthalmic Surgery; M. Jaffe, Medical Chemistry. *Extraordinary Professors:* H. Bohn, Diseases of the Skin; A. W. Grünhagen, Histology; S. Samuel, Therapeutics; S. Pincus, Forensic Medicine; E. Berthold, Diseases of the Eye and Ear; F. R. A. Schneider, Surgery and Military Surgery; J. Caspary, Diseases of the Skin, and Syphilis; P. Baumgarten, Pathology; J. Schreiber, Medicine; O. Langendorff, Physiology.

Connected with the University are anatomical, pathological, and physiological institutions, medical, surgical, obstetrical, and ophthalmic clinics; chemical and pharmaceutical laboratories, &c.

UNIVERSITY OF LEIPZIG.

The Medical Faculty of this University consists of the following professors and a number of private teachers. *Ordinary Professors:* F. Hofmann, Hygiene; E. L. Wagner, Medicine; C. S. F. Credé, Midwifery; F. V. Birch-Hirschfeld, Pathological Anatomy; C. F. W. Ludwig, Physiology; C. Thiersch, Surgery; E. A. Coccius, Ophthalmic Surgery; W. His, Anatomy; C. W. Braune, Anatomy; P. Flechsig, Psychiatry; R. Boehm, Materia Medica; F. A. Hoffmann, Medicine. *Extraordinary Professors:* H. Sonnenkalb, Forensic Medicine and Hygiene; J. V. Carus, Zoology and Comparative Anatomy; A. Winter, Materia Medica; C. Hennig, Obstetrics; C. H. Reclam, Forensic Medicine and Hygiene; B. G. Schmid, Surgery; E. F. Wenzel, Anatomy and Histology: J. L. O. Heubner, Medicine; E. R. Hagen, Otology, &c.; A. R. Brenner, Diseases of the Nervous system; E. Drechsel, Medical Chemistry; F. L. Hessel, Dental Surgery.

In connection with the University are chemical, physico-chemical, and pathologico-chemical laboratories; a zoological institute, under the direction of Professor Leuckhardt; an anatomical institute, under Professor His; a physiological institute, under Professor Ludwig; and various clinics, &c.

UNIVERSITY OF MARBURG.

Any one wishing to proceed to the medical degree at this University must send in to the Dean of the Faculty of Medicine the following: 1. a *curriculum vitæ*; 2, a certificate of scientific studies; 3, a certificate of at least four years' study at a recognised University or Medical College; a dissertation in the German language. If these be considered satisfactory, the candidate is admitted to a *vivâ voce* examination in the German language. If the examination be satisfactorily passed, the dissertation must be printed at the candidate's expense, and publicly defended. Three or four printed theses must also be sent in. The cost for the diploma is 330 *marks*) £16 10*s*.).

The following are the professors in the Medical Faculty of this University. *Ordinary Professors:* H. Nasse, Physiology; W. Roser, Surgery; F. Ahlfeld, Midwifery; N. Lieberkühn, Anatomy; F. Marchand, Pathology; E. Mannkopff, Medicine; H. Schmidt-Rimpler, Ophthalmology; H. Kramer, Psychology; E. E. Külz, Physiology; H. Meyer, Pharmacology. *Extraordinary Professors:* G. Wagener, Anatomy; H. Lahs, Midwifery; M. Rubner, Hygiene.

A hospital and various laboratories, &c., for practical instruction are connected with the University.

UNIVERSITY OF MUNICH.

In granting medical degrees at this University, a distinction is made between those candidates who have already passed a State examination, and those who have not. From candidates who have already passed a satisfactory German examination nothing further is required in order to admit them to compete for the doctorate than the certificate of having passed such examination. The Faculty requires, however, the presentation of a dissertation, written in either the Latin or the German language. If the Faculty approve of it, it is printed at the expense of the candidate.

1. Candidates who have not passed the German state examination must present to the Medical Faculty the following:—*a*, a gymnasial certificate, or at least a certificate showing that the candidate has enjoyed a regular education; *b*, certificates of at least four years' attendance at an university or medical institution, and of attendance at lectures on the principal branches of natural science and medicine; *c*, clinical certificates of the treatment of an internal, surgical, and eye complaint, and also assistance at a birth; *d*, a certificate of the performance of an operation on the dead body, and the application of a bandage. 2. The candidate must pass a two hours' verbal examination (in the German language) in Anatomy, Physiology, General Pathology and Pathological Anatomy, Materia Medica, Therapeutics, Surgery, Midwifery, Hygiene, and Diseases of the Eye. 3. The candidate has also to give in a dissertation. 4. The fees for examination and promotion amount, for both kinds of candidates, to 100 *thalers*, 300 *marks*, or 175 *florins* (£15).

The professorial staff of the Medical Faculty of this University is constituted as follows:—*Ordinary Professors:* F. X. von Gietl, Medicine; F. C. von Rothmund, Surgery and Clinical Surgery; A. Weismann, Zoology and Comparative Anatomy; F. Seitz, Materia Medica; L. A. Buchner, Pharmacy; M. von Pettenkofer, Hygiene; F. C. L. Winckel, Obstetrics and Gynæcology; J. N. von Nussbaum, Surgery and Clinical Surgery; A. von Rothmund, Ophthalmic Surgery; C. von Voit, Physiology; H. von Ziemssen, Medicine; C. Kupffer, Anatomy; N. Rüdinger, Anatomy; O. Bollinger, Pathology. *Extraordinary Professors:* H. Ranke, Medicine; J. Amann, Midwifery; A. Martin, Forensic Medicine; J. Oertel, Laryngoscopy; J. Bauer, Medicine;

O. Angerer, Surgery; H. Tappeiner, Medical Chemistry; K. Posselt; F. E. Bezold.

The University, which is situated in the Ludwig Strasse, contains a library consisting of 500,000 volumes. The chemical laboratory for hygiene is under the direction of Professor von Pettenkofer.

UNIVERSITY OF ROSTOCK.

WHOEVER wishes to graduate in medicine at this University must apply to the Dean of the Medical Faculty, and deliver to him the following documents: 1, a certificate of having gone through the requisite course of studies in an university; 2, a certificate of examination, testifying to the ability of the candidate in the practice of medicine; 3, a treatise on any subject appertaining to medical science, composed by the candidate himself. A fee of 350 *marks* must be paid to the Faculty, of which two-thirds will be returned if the treatise be not deemed satisfactory. If proof of having passed a satisfactory examination in Germany be not given, the candidate is subjected to an examination, for which a sum of 200 *marks* must be paid. Only for special cases does the Faculty reserve a special form of examination. The inaugural dissertation must be the candidate's own, and he must append a written declaration to that effect. It is not, however, required that the work be composed entirely without assistance; but in this case the resources must be distinctly stated. After the dissertation has been stamped by the Dean in the name of the Faculty, it must be printed at the expense of the author, and at least 125 copies delivered to the Faculty. When the candidate has satisfactorily fulfilled the above conditions, he must introduce his essay, and read it publicly, and defend it. Promotions *in absentiâ* cannot be made, except only in the case of a *promotio honoris causâ* for distinguished service to medical science.

The Medical Faculty of this University consists of the following *Ordinary Professors:* T. Thierfelder, Medicine; H. R. Aubert, Physiology; W. von Zehender, Ophthalmology; F. Shatz, Obstetrics and Gynæcology; A. von Brunn, Anatomy; O. Nasse, Pharmacology; O. W. Madelung, Surgery; A. Thierfelder, Pathological Anatomy. *Extraordinary Professor:* J. Uffelmann, Medicine.

UNIVERSITY OF STRASBURG.

THE following is an extract from the regulations of the University of Strasburg relative to Degrees in Medicine.

Any person desirous of obtaining the degree of Doctor of Medicine can only be admitted to graduation on fulfilling the following conditions. 1. If he belong to the German Empire, he must have completed an academical four years' course of study of Medicine, or of the Natural Sciences. By an unanimous decision of the Faculty, one or two sessions may be omitted. Foreigners are not required to have passed through the four years' course, if they produce proof of having received instruction equivalent to the course of study in a German Medical Faculty. 2. He must present a scientific essay composed by himself. 3. He must undergo the Faculty examination. 4. He must pay the prescribed fee of 240 *marks*. The examination consists, as a rule, of an oral examination in all important departments of medicine. If the candidate fail to give satisfaction, he must, in order to obtain the degree of doctor, again undergo the examination after a time to be determined by the Faculty, but he is not required to present a second dissertation. In the case of candidates who have passed the State examination, a colloquy before three members of the Faculty may be substituted for the oral examination. Degrees in Medicine are not conferred on absent candidates. If the dissertation be rejected, the whole fee is returned. If the dissertation be approved, but the candidate fail in the examination, 90 marks are returned to him: but when he is again admitted to examination, only half that fee is required. After the examination has taken place, and the dissertation has been printed and published, the candidate is formally admitted to the degree of Doctor by the issuing of a printed diploma. The candidate has to bear the expense of printing the dissertation and the diploma. There is no public ceremony, and no oath is administered.

Any one desirous of matriculating as a student, and attending the lectures and other instruction given in the University, must, on his arrival in Strasburg, communicate with the Secretary of the University in order to be inscribed. Other persons desirous of attending the lectures must obtain permission from the respective teachers, and must then communicate with the Secretary of the University.

The following are the professors and teachers of the University. *Ordinary Professors:* G. Schwalbe, Anatomy; J. G. Jössel, Anatomy; F. L. Goltz, Physiology; F. Hoppe-Seyler, Physiological and Pathological Chemistry; O. Schmiedeberg, Pharmacology and Therapeutics; F. von Recklinghausen, Pathological Anatomy and Physiology; A. Kussmaul, Medicine; A. Lücke, Surgery; W. A. Freund, Obstetrics and Gynæcology; F. Wieger, Diseases of the Skin, and Syphilis; A. Aubenas, Obstetrics and Gynæcology; F. Jolly, Psychiatry; L. Laqueur, Diseases of the Eye. *Extraordinary Professors:* G. Kohts, Medicine and Diseases of Children; A. Kuhn, Diseases of the Ear; E. Fischer, Surgery; J. Stilling, Ophthalmology; J. von Mering, Medicine; A. Wolff; R. Ewald. There are also several *docents*.

Connected with the University are institutions for the practical study of anatomy, experimental physiology, physiological chemistry, pathology, and pharmacology, and clinics for medicine, surgery, midwifery, mental diseases, diseases of the eye, and syphilis, and diseases of the skin.

UNIVERSITY OF TÜBINGEN.

THE Faculty of Medicine here grants a degree in Medicine under the following conditions.

1. The candidate must send in with his application—*a*, a *curriculum vitæ*; *b*, a certificate of having gone through a thorough course of instruction at the Gymnasium or some equivalent institution; *c*, proof of a sufficient study of medicine at a university, and certificates of having attended the lectures having reference to the subjects of examination. 2. The examination consists of a written and a subsequent verbal one. A legalised proof of having passed a satisfactory examination in medicine and surgery in a foreign country dispenses with the written examination, but not with the verbal one. In no case can a degree be granted *in absentiâ*. 3. In the written examination will be put one question in each of the following subjects: 1. Anatomy; 2.

Physiology; 3. Materia Medica; 4. General Pathology and Therapeutics; 5. Two questions in Special Pathology and Therapeutics. In addition to these, if a Doctor's degree in Surgery be required, one question will be put on each of the following subjects: 1. General Surgery; 2. Special Surgery; 3. Surgical Operations; 4. Midwifery. 5. The fees amount to 300 *marks*, including the printing of the diploma, which fee must be paid on application. If the candidate be rejected at the written examination, and be not admitted to the verbal one, the whole of the fees are returned. If he be rejected after the verbal one, only half is returned. 6. The candidate must compose a dissertation, and get it printed; 250 copies are to be presented to the University. If, however, the essay be published either in a periodical or as a special pamphlet, 100 copies will suffice, but they must be provided with a special title-page. Only such candidates as have given numerous and satisfactory literary proofs of their capacity can be allowed to dispense with the composition.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* P. Bruns, Surgery; P. Grützner, Physiology; J. von Säxinger, Obstetrics and Gynæcology; C. von Liebermeister, Medicine; T. von Jürgensen, Materia Medica; A. Nagel, Ophthalmology; P. J. W. Henke, Anatomy; E. Ziegler, Pathology. *Extraordinary Professors:* O. Oesterlen, Forensic Medicine and Hygiene; A. Froriep, Anatomy; G. Schleich, Ophthalmology; H. Vierordt, Medicine; C. Nauwerk, Pathology; — Wagenhäuser, Aural Surgery.

A hospital and institutions for practical instruction are connected with this University.

UNIVERSITY OF WÜRZBURG.

Before being admitted to the examination for the Doctorate of Medicine, Surgery, and Midwifery, the candidate must show—by testimonials or certificates—that he has a good moral character, and that he has passed through four years' study at an University, six sessions of which must have been devoted to medical studies. Upon fulfilment of these conditions, the candidate is admitted to a written and *vivâ voce* examination; before which he must pay to the Faculty 300 *marks* (£15). The written examination consists in the composition of an essay on some subject in theoretical or practical medicine, which dissertation must be handed to the Dean. It is customary for the dissertation to be printed. If the report on the essay be unfavourable, admission to the *vivâ voce* examination is denied, and another essay must be composed and handed in at a future time. Should the second essay, however, be deemed unsatisfactory, the candidate will not be allowed to reappear. He then receives back all his fees except 30 *marks*. If the dissertation be approved by the Faculty, the candidate is admitted to a *vivâ voce* examination, in the German language, which consists of the following subjects: Anatomy and Pathological Anatomy, Physiology, Pathology, and Medicine, Special Therapeutics, Surgery, Obstetrics and Ophthalmology. A knowledge also of Psychology and State Medicine is required. After taking the examination oath, the result and standing of the examination is imparted to the candidate by the Dean—whether very good, good, or moderate. When the candidate is unsuccessful at the *vivâ voce* examination, he receives back half the fees, and is allowed to present himself for examination again in six months' time by paying half the fees again. Only one more attempt is, however, allowed after the first rejection at the *vivâ voce* examination. After successful examination, the candidate receives his diploma of doctor.

In this University, the Medical Faculty consists of the following professors, with several *docents*. *Ordinary Professors:* A. von Kölliker, Anatomy; F. W. Scanzoni von Lichtenfels, Midwifery; —— Surgery and Clinical Surgery; A. Fick, Physiology; W. O. Leube, Medicine; G. E. Rindfleisch, Pathology; J. Michel, Ophthalmic Surgery; A. Geigel, Medicine and Hygiene; H. Grashey, Psychiatry. *Extraordinary Professors:* A. von Tröltsch, Aural Surgery; W. Reubold, Forensic Medicine; A. Kunkel, Materia Medica; P. Stöhr, Anatomy; F. Riedinger, Surgery.

AUSTRO-HUNGARIAN EMPIRE.

GRADUATION IN MEDICINE.

The Universities of the Austro-Hungarian Empire which possess Medical Faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbrück (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the Universities are under Government control, and the degree of Doctor of Medicine obtained at any of them alone gives the right to practise medicine in the Empire.

The course of study required of candidates for the degree of Doctor of Medicine in the Universities of the Austrian Empire extends over five years, or five winter and five summer terms or *semesters*. The following arrangement is recommended by the Government. (The first, third, fifth, seventh, and ninth are winter *semesters:* the others are summer *semesters.*) 1st *Semester:* Systematic Anatomy; Experimental Physics, Inorganic Chemistry; General Botany; Dissections. 2nd *Semester:* Systematic Anatomy (second part); Experimental Physics (second part); Organic Chemistry; Special Botany; Mineralogy; Practical Introduction to Chemical Analysis; Practical Introduction to the Use of the Microscope. 3rd *Semester:* Physiology; Histology; Medical Chemistry; Zoology; Dissections. 4th *Semester:* Physiology (second part); Embryology; Exercises in Physiology; in Histology; and in Medical Chemistry. 5th *Semester:* General Pathology and Therapeutics; Pharmacology; Pathological Anatomy; Pathological Histology; *Post mortem* Examinations; Practical Introduction to the Physical Examination of Patients. 6th *Semester:* Pathological Anatomy (second part); Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; *Post mortem* Examinations; Exercises in Pathological Histology. 7th *Semester:* Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; Diseases of the Eye; Exercises in Surgical Anatomy; (Operations). 8th *Semester:* Internal Diseases; Surgery or Diseases of the Eye; Surgical Operations; (Surgical Anatomy). 9th *Semester:* Internal Diseases; Surgery; Theory and Practice of Obstetrics and Gynæcology; Forensic Medicine;

(Exercises in Obstetric Operations); Medico-Legal Exercises. 10th *Semester:* Clinics of Diseases of Children; of Diseases of the Skin; and of Syphilis; (Obstetrics and Gynæcology); Exercises in Obstetric Operations; (Medico-Legal Exercises). Of the subjects included in brackets, one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

Candidates for the degree of Doctor of Medicine are required to undergo three examinations (*rigorosen*). Before being admitted, the candidate must produce (*a*) his certificate of birth or baptism, and evidence (*b*) of having received a sufficient preliminary education in one of the institutions of the countries comprised in the Empire, or, if he do not belong to any of these, evidence of having matriculated as an ordinary student in a Faculty of Medicine; (*c*) evidence of having attended lectures in a medical school during at least four sessions, and of having dissected during two sessions; (*d*) of having passed, at one of the Universities of the Empire, three examinations, in Botany, Zoology, and Mineralogy. Before being admitted to the second examination, he must produce evidence of having been engaged five years in professional study, and of having studied Clinical Medicine and Clinical Surgery, each during four sessions, and Clinical Ophthalmology and Clinical Midwifery, each during at least one session; and of having passed the first examination.

The first examination embraces Physics, Chemistry, Anatomy, and Physiology. There is a practical examination on Anatomy and Physiology, and a theoretical examination on all four subjects.

The second examination includes General Pathology and Therapeutics, Pathological Anatomy and Histology, Pharmacology (pharmacodynamics, toxicology, and prescribing), and the Pathology and Therapeutics of internal diseases. The candidate is examined practically in Pathological Anatomy (with preparations and on the dead body), and in Medicine (at the bedside); and theoretically in all the subjects.

The third examination embraces Surgery, Ophthalmic Surgery, Midwifery and Diseases of Women, and Forensic Medicine. The examinations in Surgery, Ophthalmic Surgery, and Midwifery, are practical; and there are theoretical examinations in all the subjects.

All these examinations must take place at the same University. In very exceptional circumstances only is a candidate allowed to pass the second or third examination at another University than that at which he has passed the first.

The examinations are public, and are conducted by a president, the regular examiners, extraordinary examiners when required by the number of candidates, the Government commissioner; and at the second and third there is a co-examiner appointed by the Government. Each member of the commission examines for a quarter of an hour.

A candidate is not admitted to the theoretical examination unless he has satisfied the examiners in the practical one. If he fail at the practical examination, he may present himself again at the end of six months; if again rejected, six months must elapse before he can be again examined. A candidate rejected at the theoretical examination by one examiner only may be re-admitted to examination in the subject in which he is deficient, at the end of two months. If again rejected, he cannot be again examined in less than four months. If rejected at the theoretical examination by more than one examiner, he may re-appear a second and third time at intervals of six months. A rejected candidate can, however, be examined a third time, either in practice or in theory, only with the sanction of the Minister of Public Instruction, and the consent of the College of Professors; and if he then fail, he is debarred henceforth from obtaining a degree in medicine in any of the Universities of the Empire.

The fee for the first examination is 55 florins, for the second 60 florins, and for the third 65 florins (Austrian). The promotion fees for the Doctorate amount to 60 Austrian florins. The total fee for the M.D. degree is about £23 of English money.

UNIVERSITY OF VIENNA.

IN this University, the Medical Faculty is constituted as follows. *Ordinary Professors:* E. von Brücke, Physiology; E. Albert, Surgery; C. Langer, Anatomy; C. R. Braun von Fernwald, Obstetrics and Gynæcology; H. von Bamberger, Medicine; H. Kundrat, Pathology; H. Nothnagel, Medicine; A. Breisky, Obstetrics and Gynæcology; C. Stellwag von Carion, Ophthalmic Surgery; Th. Billroth, Surgery; G. Braun, Midwifery (for Midwives); E. von Hofmann, Forensic Medicine; I. Neumann, Syphilology; S. Stricker, Pathology and Therapeutics; T. Meynert, Psychiatry and Nervous Diseases; A. E. Vogl, Pharmacology and Pharmacognosy; E. Ludwig, Chemistry; K. Toldt, Anatomy; H. Widerhofer, Diseases of Children; E. Fuchs, Ophthalmic Surgery. *Extraordinary Professors:* J. Seegen, Balneology; L. Schlager, Psychiatry; F. Müller, Veterinary Medicine; L. von Dittel, Surgery; M. Leidesdorf, Psychiatry; M. Benedikt, Electro-Therapeutics and Neuro-Pathology; S. Stern, Elementary Clinical Instruction; A. Politzer, Aural Surgery; J. Grüber, Aural Surgery; J. Weinlechner, Surgery; S. L. Schenk, Embryology; A. Drasche, Epidemiology; A. R. von Mosetig-Moorhof, Surgery; C. Stoerk, Laryngoscopy; L. Schrotter, Medicine; I. Neumann, Diseases of the Skin and Syphilis; M. Kaposi, Diseases of the Skin and Syphilis; F. Salzer, Surgery; S. Exner, Physiology; M. Rosenthal, Diseases of the Nervous System; G. Wertheim, Diseases of the Skin and Syphilis; S. von Basch, Experimental Pathology; T. Puschmann, History of Medicine; E. Fleischl von Marzow, Physiology; J. Schnitzler, Medicine; R. Chrobak, Obstetrics and Gynæcology; K. von Rokitansky, Obstetrics and Gynæcology; H. Obersteiner, Physiology; E. von Stoffella, Special Pathology and Therapeutics; J. Hofmokl, Surgery; R. Ultzmann, Surgery; A. Wölfler, Surgery; J. Mauthner, Medical Chemistry; A. von Reuss, Ophthalmic Surgery; L. Oser, Medicine; V. Urbantschitsch, Aural Surgery; A. Weichselbaum, Pathological Anatomy. The following private teachers have the title of professor: L. Mauthner, Ophthalmic Surgery; C. Böhm, Surgery; L. M. Pollitzer, Diseases of Children; W. Winternitz, Medicine; A. Monti, Diseases of Children. There are also numerous private teachers, adjuncts, and assistants.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 2,000 patients. There are two medical clinics, under Professors Duchek and Von Bamberger; two surgical clinics, one of which is under Professor Billroth, a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics, two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for Midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Breisky. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otology, under Professor Grüber. A considerable portion of the school is also situated within the hospital: thus there are the Pathological Museum and *post mortem* room, under the direction of the Professor of Pathology; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the Practical Physiology is carried on under Professor Brücke, the Materia Medica Museum and the Medical Library are outside the hospital, in the Alsergrund.

The great clinics on medicine, surgery, &c., are conducted during the two sessions—from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the Professors of the Medical Faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by the private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors. For a six or eight weeks' course, the fee is usually from fifteen to twenty florins. The instruction in them is demonstrative or practical, involving the use of instruments and apparatus by the students themselves.

Vienna affords great opportunities for the study of pathological anatomy. There are separate *post mortem* rooms for the cases from the clinical wards, medico-legal cases, and the ordinary cases. At the two former the clinical professor or assistant is usually in attendance. The examinations go on all the morning, there being sometimes as many as a dozen in one day.

Besides the General Hospital, Vienna possesses the Wieden Hospital (600 beds), the Rudolf Institution for the Sick (*K. K. Krankenhaus Rudolfstiftung*) (860 beds), the Lunatic Asylum, the General Polyclinic or Dispensary, the Lying-in Hospital, the Leopoldstädt Children's Hospital (90 beds), the Crown Prince Rudolf Children's Hospital (40 beds), St. Joseph's Children's Hospital at Wieden (100 beds), St. Anne's Children's Hospital (100 beds), &c.

UNIVERSITY OF CRACOW.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors:* E. Korczynski, Medicine; J. Mikulicz, Surgery; L. Teichmann, Descriptive Anatomy; M. Madurowicz von Jelita, Midwifery and Gynæcology; S. Janikowski, Forensic Medicine; L. Rydel, Ophthalmic Surgery; A. Stopczanski, Medical Chemistry; A. Adamkiewicz, Pathology; L. Blumenstock, Forensic Medicine; T. Browicz, Pathological Anatomy; N. Cybulski, Physiology. *Extraordinary Professors:* A. Rosner, Diseases of the Skin and Syphilis; J. Oettinger, History of Medicine; M. L. Jakubowski, Diseases of Children; S. Domanski, Diseases of the Nervous System; J. Lazarski, Pharmacology; A. Obalinski, Surgery; S. Parenski, Medicine. There are also several *privat-docents* and assistants.

UNIVERSITY OF GRATZ.

IN this University the Medical Faculty consists of the following professors, with about twelve *docents*. *Ordinary Professors:* A. Schauenstein, Forensic Medicine; E. Zuckerkandl, Anatomy; ——, Surgery; C. von Helly, Midwifery and Gynæcology; A. Rollett, Physiology and Histology; C. Blodig, Ophthalmic Surgery; O. Rembold, Medicine; J. Eppinger, Pathological Anatomy; C. von Schroff, Materia Medica and Therapeutics; C. B. Hoffmann, Medical Chemistry; V. von Ebner, Histology and Embryology; R. von Krafft-Ebing, Psychiatry; R. Klemensiewicz, Pathology and Therapeutics. *Extraordinary Professors:* J. von Koch, Epidemic Diseases and Sanitary Police; E. Lipp, Diseases of the Skin; E. Borner, Obstetrics and Gynæcology; M. Gruber, Hygiene.

Connected with the University are anatomical, physiological, pathological, and zoological institutes; medical, surgical, ophthalmic, obstetric, and gynæcological clinics; a laboratory for physiological and pathological chemistry; a chemical laboratory, &c. The hospitals are the general hospital (700 beds), a lying-in hospital (120 beds), the town hospital (80 beds), a children's hospital (80 beds), and two infirmaries (245 beds).

UNIVERSITY OF INNSBRUCK.

THE following professors belong to the Medical Faculty. *Ordinary Professors:* A. von Tschurtschenthaler, Materia Medica and Therapeutics; M. Holl, Anatomy; F. Schauta, Obstetrics and Gynæcology; J. Moeller, General Pathology and Pharmacology; M. von Vintschgau, Physiology; F. Schott, Pathological Anatomy; C. Nicoladoni, Surgery; I. Schnabel, Ophthalmic Surgery; P. von Rokitansky, Medicine; W. Löbisch, Medical Chemistry. *Extraordinary Professors:* F. Wildner, Veterinary Medicine; J. Oellacher, Histology and Embryology; E. Lang, Syphilology and Dermatology.

The ordinary laboratories, clinics, and other means of practical instruction, are possessed by this University. There are a general hospital (204 beds) and a lying-in hospital (130 beds).

UNIVERSITY OF PRAGUE.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors:* A. Pribram, Medicine; C. Gussenbauer, Surgery; H. Sattler, Ophthalmic Surgery; Ph. Knoll, Pathology; J. Maschka, State Medicine; O. Kahler, Medicine; E. Hering, Physiology; F. Weber von Ebenhof, Midwifery; C. H. Huppert, Medical Chemistry; L. Bandl, Obstetrics and Gynæcology; H. Chiari, Pathology; F. Hofmeister, Pharmacology: C. Rabl, Anatomy; A.

Pick, Psychiatry; S. Mayer, Physiology. *Extra-ordinary Professors:* J. Lerch, Chemistry; ——, Diseases of Children; P. J. Pick, Skin-Diseases and Syphilis; E. Zaufal, Aural Surgery; C. Weil, Surgery; F. Ganghofner, Medicine; A. Epstein, Diseases of Children; J. Soyka, Hygiene; W. Biedermann, Physiology; J. Janosik, Histology and Embryology; A. Schenkl, Ophthalmic Surgery; — von Jirus, Pharmacology.

Connected with the University are an anatomical theatre; pathological, physiological, medico-chemical, and zoo-chemical institutes; medical, surgical, ophthalmic, and dermatological clinics (one of the medical clinics being Bohemian); obstetric clinics for practitioners and for midwives, &c. The hospitals are the General Hospital (948 beds), with the affiliated Hospital of the Bohemian Sisters (220 beds), the Franz-Josef Children's Hospital (100 beds), the Israelite General Hospital (52 beds), the Hospital of the Brothers of Mercy (166 beds), the Hospital of the Elizabethan Sisters (60 beds), the Public Lunatic Asylum (1,348 beds), the Lying-in Hospital (322 beds for mothers and 176 for children).

SWITZERLAND.

GRADUATION IN MEDICINE.

IN Switzerland degrees in Medicine are granted in the Universities of Basle, Berne, Geneva, and Zürich. These degrees do not confer a licence to practise, for which a separate examination is required.

UNIVERSITY OF BASLE.

THE degree of Doctor of Medicine, Surgery, and Midwifery, granted by this University, can only be obtained under the following conditions.

1. Application for admission to the examination must be made to the Dean of the Faculty in writing, enclosing: (*a*) *curriculum vitæ*; (*b*) the academical matriculation of this place; (*c*) certificates of attendance at the academical lectures; (*d*) a certificate of conduct from the High School in which the candidate has made his principal studies; (*e*) a scientific treatise on any subject in medical or natural science. 2. The examination is partly written (*tentamen*) and partly verbal (*rigorosum*). 3. The written examination consists in the answering of five questions in Anatomy, Physiology, Pathology, Medicine, and Surgery. 4. In case of rejection, the Faculty can appoint a time for a repetition of the examination. 5. The whole of the professors of the Faculty are invited to the verbal examination. The following are the subjects: Anatomy, Physiology, Pathology, Medicine, Materia Medica, Surgery, and Midwifery. 6. The examination by one examiner must not last longer than half an hour. 7. The degrees in which doctorships are granted are *Summâ cum laude*, *Insigni cum laude*, *Magnâ cum laude*, *Cum laude*, and *Rité*. 8. In adjudicating on both the written and the verbal examination, not only will the special knowledge in the respective branches be taken into consideration, but also the possession of general scientific knowledge, and especially a comprehensive knowledge of Natural Science. 9. One hundred and twenty copies of the treatise must be delivered to the Faculty. 10. Promotions are not granted to applicants who have not passed the examinations here, but the Faculty can confer the degree of Doctor *honoris causâ*. 11. The fees for the examination amount to 350 francs—viz., 100 for the *tentamen*, 200 for the *rigorosum*, and 50 for the promotion. 12. If the candidate be rejected after either examinations he forfeits the fees. The re-examination is free of charge.

The following are professors in the Medical Faculty of this University. *Ordinary Professors:* F. Miescher (senior), Pathological Anatomy; L. Rütimeyer, Comparative Anatomy and Zoology; A. Socin, Surgery; H. Immermann, Medicine; J. Kollmann, Anatomy; J. J. Bischoff, Obstetrics and Gynæcology; F. Miescher (junior), Physiology; M. Roth, Pathology; L. Wille, Psychiatry; H. Schiess, Ophthalmic Surgery. *Extraordinary Professors:* I. Hoppe, Therapeutics; E. Hagenbach-Burckhardt, Diseases of Children; R. Massini, Polyclinic and Prescribing; A. Burchhardt-Merian, Diseases of the Ear; M. Gottschau, Anatomy; G. Bunge, Physiology and Pathology. There are also several private teachers.

Connected with the University are the town hospital, where clinics for medicine, surgery, diseases of the eye, mental diseases, and midwifery are conducted; a hospital for diseases of children, and institutions for practical instruction in physiology, pathology, chemistry, and botany.

UNIVERSITY OF BERNE.

BEFORE admission to examination for the Degree in Medicine and Surgery, the candidate must submit to the Faculty of Medicine a manuscript dissertation of scientific value. If this be accepted, he must, after producing evidence of general, scientific, and medical education, be examined *vivâ voce* in Anatomy, Physiology, Pathological Anatomy, Legal Medicine, General Pathology and Medicine, Surgical Pathology and Surgery, Materia Medica, and Ophthalmology.

The Medical Faculty of this University is constituted of the following professors and about thirteen *docents*. *Ordinary Professors:* C. Emmert, Forensic Medicine and Hygiene; E. Gasser, Anatomy; T. Kocher, Surgery; T. Langhans, Pathological Anatomy; L. Lichtheim, Medicine; P. Müller, Obstetrics and Gynæcology; A. Vogt, Hygiene; E. Pflüger, Ophthalmic Surgery; M. von Nencki, Physiological Chemistry; H. Kronecker, Physiology; *Extraordinary Professors:* E. Schärer, Psychiatry; R. Demme, Materia Medica and Diseases of Children; A. Valentin, Aural Surgery. There are several private teachers.

Medical, surgical, obstetric, and special clinics, and physiological, pathological, and clinical laboratories, &c., are connected with the University.

UNIVERSITY OF GENEVA.

THE University of Geneva grants the degree of Bachelor in Medical Science and Doctor of Medicine.

The following classes of persons are admitted as students in the Faculty of Medicine: 1. Bachelors in Letters; 2. Bachelors in Science; 3. Students who have attended during two years' lectures in the Section of Philosophy, and have undergone the examinations at the end of each year; 4. Pupils from the Classical Section of the Gymnasium, with certificates of Studies; 5. Swiss and strangers who give evidence of their studies by means of diplomas or certificates; 6. Persons who undergo satisfactory oral examinations in the subjects comprehended in the classical section of the Gymnasium; 7. Persons who furnish evidence that they have studied abroad, for a year at least in a corresponding faculty, may be inscribed in the Faculty of Medicine.

The course of study is as follows: *First Year: Winter Session:* Botany (first part); Physics (first part); Comparative Anatomy or Zoology; Inorganic Chemistry; Practical Comparative Anatomy. *Summer Session:* Botany (second part); Physics (second part); Comparative Anatomy or Zoology; Organic Chemistry (first part); Practical Chemistry; Botanical Excursions. *Second Year: Winter Session:* Descriptive Anatomy (first part); Physiology (first part); Organic Chemistry (second part); Dissections. *Summer Session:* Descriptive Anatomy (second part); Physiology (second part); Practical Chemistry and Practical Comparative Anatomy. (Students are recommended to attend, in addition, courses of other subjects, such as Astronomy, Geography, Physics, Mineralogy, Geology, &c.) *Third Year: Winter Session:* Descriptive Anatomy (third part); Normal Histology; Dissection. *Summer Session:* Regional Anatomy; Embryogeny. Supplementary courses on subjects of the preceding years, on which the student's knowledge is weak; Practical Physiology, Histology, Comparative Anatomy, and Chemistry. (The examination for Bachelor in Medical Sciences is now undergone.) *Fourth Year: Winter Session:* General Pathology; Internal Pathology; External Pathology; Dissection of Regions; Medical and Surgical Hospital Practice. *Summer Session:* Special Pathological Anatomy; Pathological Histology; Internal Pathology; External Pathology; Pharmacology; Medical and Surgical Hospital Practice; Exercises in the Laboratory of Pathological Histology. *Fifth Year: Winter Session:* Therapeutics; Hygiene; Legal Medicine; Theory of Obstetrics; Internal Pathology; External Pathology and Operations; Medical and Surgical Hospital Practice. *Summer Session:* Therapeutics; Legal Medicine; Internal Pathology; External Pathology; Medical and Surgical Hospital Practice; Operations. *Sixth Year: Winter and Summer Sessions:* Medical, Surgical, and Obstetrical Hospital Practice; Polyclinic; Ophthalmology; Psychology, &c. Repetitions preparatory to the examination for the Doctorate.

Persons who have satisfied the conditions laid down regarding the admission of students to the Faculty of Medicine may become candidates for the degree of Bachelor in Medical Science. Students who have undergone the recognised annual examinations in the Faculty of Medicine or of Sciences are exempt from oral examination in the subjects in which they have already been examined; provided that the examinations have been undergone not more than two years previously. Persons who produce diplomas or certificates giving evidence of their studies may be exempted from further examinations in the subjects in which they have already passed.

The following may become candidates for the degree of Doctor of Medicine: 1. Bachelors in Medical Science; 2. Persons who produce diplomas or certificates indicating that they have gone through an equivalent course of study. There are five examinations for the degree of Doctor of Medicine. *First Examination:* Human Anatomy and Histology; Physiology; Pathological Anatomy and General Pathology; a Necropsy, for which one hour is allowed; making an Anatomical Preparation, for which four hours are allowed. *Second Examination:* Medicine; Surgery; Operative Surgery; three Operations, and Application of Bandages. *Third Examination:* Hygiene; Therapeutics; Materia Medica and Pharmacology; Legal Medicine; a Medico-Legal Report on a real or supposed case, for which one hour is allowed. *Fourth Examination:* Clinical Examination of two medical and two surgical patients and of one case of labour (fifteen minutes being allowed for each case); Obstetrics, with operations on the mannikin; Discussion on each Clinical Case; Written Commentary on a Medical and a Surgical Case, two hours being allowed. *Fifth Examination:* Defence of a Printed Dissertation, in the French language, on a subject in medical science chosen by the candidate, and previously communicated to the Faculty.

The examinations are public. Those for the degree of Bachelor are held at the beginning and end of the University year, and in the interval between the sessions. Application for admission must be made to the Dean of Faculty of Medicine eight days before the day of examination. The examinations for the degree of Doctor take place, on the demand of the candidates, at times determined by the Faculty.

Before being admitted to examination, each candidate pays to the beadle 40 *francs*; and after the last examination, 100 *francs* must be paid to the Faculty of Medicine. In case of unsatisfactory examination, half the first fee is returned, and the second is not paid.

The professorial staff consists of the following: *Ordinary Professors:* S. L. Laskowski, Anatomy; M. Schiff, Physiology; F. W. Zahn, Pathology; L. Revilliod, Clinical Medicine; G. Juillard, Clinical Surgery; A. H. Vaucher, Clinical Obstetrics and Gynæcology; M. Olivet, Psychiatry; F. Vuillet, Polyclinic; A. D'Espine, Medicine; J. L. Reverdin, Surgery and Practical Surgery; J. L. Prevost, Therapeutics; P. L. Dunant, Hygiene. *Supplementary Professors:* — Eternod, Histology; — Jentzer, Obstetrics; A. Reverdin, Surgery; H. Oltramare, Venereal Diseases.

UNIVERSITY OF ZURICH.

THE following are the regulations for the degree of Doctor of Medicine.

1. In order to obtain the degree of Doctor of Medicine, the candidate must send to the Dean a written memorial, accompanied by (*a*) evidence of attendance on lectures of Physics, Chemistry, Botany, Zoology, and Medical Subjects: (*b*) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

2. The dissertation is delivered by the Dean for examination to the teacher of the subject of which it treats, or to the member of the Faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance. If the first opinion be doubtful or unfavourable, the thesis must be circulated among all the members of the Faculty, and is accepted if two-thirds give their written votes in its favour.

3. When the dissertation is approved, the candidate is admitted to examination. The first part is written, and the candidate has to answer two

questions drawn by lot, one on Anatomy and Physiology, the other on Pathology and Therapeutics, Surgery, or Midwifery. The answers are circulated among the members of the Faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the oral examination. This examination comprises the above-named subjects, and also General Anatomy, Pathological Anatomy, Materia Medica, and Ophthalmic Medicine. The votes of two-thirds of the members of the Faculty present are necessary for the passing of this examination.

4. After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate.

5. The fee consists of 350 *francs* (£14), and 15 *francs* to the bedell; it is paid before the oral examination (if this be remitted, before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of 100 *francs* is remitted to candidates who already possess a recognised diploma; and, in such cases, the Faculty may, by a majority of two-thirds, agree to omit the oral examination.

6. The Faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The Medical Faculty consists of the following Professors, with several *docents*: *Ordinary Professors:* H. von Meyer, Human Anatomy; H. Frey, Comparative Anatomy and Histology; U. Krönlein, Surgery; J. Gaulé, Physiology; E. Klebs, Pathology; E. Eichhurst, Medicine; O. Haab, Ophthalmic Surgery; O. Wyss, Medicine; E. Frankenhäuser, Obstetrics and Gynæcology; A. Forel, Psychiatry. *Extraordinary Professors:* H. Spondly, Obstetric Medicine; J. Billeter, Medicine; F. Gott, Materia Medica.

THE LICENCE TO PRACTISE MEDICINE.

THE following are the regulations for the licence to practise medicine in Switzerland. One licensing body examines at Geneva, and the other at Basle, Berne, and Zürich; both have the same regulations, and grant the licence to practise in all parts of the republic.

There are two examinations, preliminary and final. At Geneva candidates are admitted to the preliminary examination on producing one of the following certificates: 1. Bachelier ès lettres; 2. Bachelier ès sciences; 3. Certificates of having passed two examinations in the Section of Philosophy at Geneva, and of having previously taken not less than twenty hours per week of studies; 4. Certificates of foreign studies at the Classical Section of the Gymnasium at Geneva; 5. Certificates of foreign studies equivalent to those named above. At the Amalgamated Board of Basle, Berne, and Zürich, candidates must produce evidence of complete and satisfactory studies in a public school; and of attendance on courses of Anatomy, Chemistry, Physics, Physiology, Practical Physiology, and six months' work in a Chemical Laboratory.

The examination is practical and oral. The practical part comprises Anatomy and Histology. The oral examination comprises Botany, Zoology and Comparative Anatomy, Physics, Chemistry, Anatomy and Histology, and Physiology. At Geneva, candidates who have passed this examination are entitled to the designation of Bachelor of Medical Science.

In order to be admitted to the Final Examination for the Licence, candidates at Geneva must produce the certificate of Bachelor of Medical Science, and diplomas and certificates obtained after equivalent studies and examinations elsewhere. At the other Board, they must produce evidence of having passed the Preliminary Examination, and of having attended the following academic courses: Pathological Anatomy, Medicine, Practical Surgery and Bandaging (six months), Clinical Medicine and Clinical Surgery (each three sessions), Clinical Midwifery (two sessions), and Clinical Ophthalmic Medicine (one session).

The examination is written, practical, and oral. The written and practical part consists of—1. Examination of two Medical and two Surgical cases, one Ophthalmic case, and one of Midwifery, in the presence of two examiners; Written opinion of one of two Medical and two Surgical cases; 3. A *post mortem* Examination, and opinion on the same; 4. Performance of two Operations: one the ligature of an artery; the other according to the judgment of the examiners. 5. Written Examination on Forensic Medicine and Hygiene. The *vivâ voce* examination comprises: 1. Physiology; 2. General Pathology and Pathological Anatomy; 3. Special Pathology (Medicine) and Therapeutics; 4. Pharmacology; 5. Surgery; 6. Ophthalmology; 7. Obstetrics and Gynæcology; 8. Hygiene and Forensic Medicine.

DENMARK.

MEDICAL EDUCATION AND GRADUATION.

THE study of Medicine at the University of Copenhagen is open to any student who has matriculated there or in foreign Universities; but only Danish subjects can obtain through examination the right to practise as medical men in the country.

The course of study lasts six or seven years. It is divided into three parts, namely, an introductory and two principal courses.

1. The introductory part consists of Botany (with especial regard to medicinal plants), Physics, Zoology, and Chemistry, theoretical and practical. The student has to submit to a preliminary examination on these subjects, and he can then enter as a pupil of one of the hospitals, where he must attend in a fixed order, and for a certain time, the various wards.

2. The second course comprises Anatomy, Physiology, Pharmacology, and Dissections, in which the student has to submit to an examination.

3. The final course consists of the following: Theoretical Surgery, Clinical Surgery, Operative Surgery, Theory of Medicine, Clinical Medicine, Pathological Anatomy, General Pathology, Forensic Medicine, and Obstetric Medicine. The student is examined on these subjects, and has to present a written thesis in Medicine, and one on Surgery. Before the student can pass his examination in this concluding course, he must present a certificate showing that he has gone through a half-yearly clinical course of study under the chief

physicians at the hospital in Surgery, Medicine, Skin-Diseases, and Syphilis; and a shorter course at the Lying-in Institution in Obstetrics and Diseases of Children.

When these examinations are passed, the obligatory course of study is concluded by a residence at the Lying-in Institution, in order to obtain a practical knowledge of operations in cases of abnormal labour. The candidate who has passed his examination has now a right to practise medicine; but the majority of candidates, before commencing to practise, endeavour to obtain an appointment at one of the hospitals, where they do duty during two years in a subordinate position. The entire course of study generally covers a period of from six to seven years.

In order to obtain the degree of Doctor of Medicine, the candidate has to prepare and submit to the Medical Faculty a treatise on a medical subject chosen by himself. If it be accepted by the Faculty, it is printed, and must be defended by the author publicly at the University, when at least two professors of the Medical Faculty appear as opponents.

Among other means for aiding the labours of the student at the University are: The Botanical Gardens, a Zoological Museum, a Chemical Laboratory, a Collection of Physical Instruments, an Anatomical Museum, Dissecting Rooms (Physiological Collection and Laboratory), Pharmacological Collection, Collection of Surgical Instruments, Pathological Museum, the Copenhagen Hospitals, and the Lying-in Institution. A Bacteriological Laboratory, under the direction of Dr. Salomonsen, has been established in Copenhagen.

No entrance fees are demanded, and all the lectures are free to the students. The fees payable in respect of the several examinations amount in all to 60 *kroner* (about £3 10*s.*) The expenses in connection with obtaining the degree of Doctor of Medicine amount to 160 *kroner* (about £9).

SWEDEN.

MEDICAL EDUCATION.

THERE are three medical institutions in Sweden which confer licences to practise, namely, the Universities of Upsala and Lund, and the Karolina Medico-Chirurgical Institute or Academy of Medicine in Stockholm. The Universities also confer the degree of Doctor of Medicine. A Medical School, with professors of the various branches of medical science, is connected with each.

The three institutions possess museums of normal and pathological anatomy, collections of chemical and pharmaceutical preparations and drugs, of surgical and obstetric instruments, physiological and pathological laboratories, &c.

Upsala possesses a hospital of 150 beds, which is entirely at the disposal of the University for the purpose of clinical teaching. The professors of medicine and surgery are *ex officio* medical officers of the hospital. Of the 150 beds, 100 or a few more are generally occupied, and are divided among medical, surgical, syphilitic, and obstetric cases.

In Lund, clinical instruction is given in the State Hospital and also in the University Hospital. In the latter, there are 80 beds for medical and 80 for surgical cases, with 67 beds in the syphilitic and 8 in the obstetric departments. Of these, 40 beds in the medical and 40 in the surgical department are appropriated to clinical instruction. The obstetric department is also clinical. Clinical instruction in the diseases of the eye is also given.

In Stockholm, the pupils of the Karolina Institution receive clinical instruction at the Seraphim Hospital, the Children's and Lying-in Hospitals, the Town and State Lock Hospital, and the Lunatic Asylum at Konradsberg.

At the Seraphim Hospital there are two medical and two surgical wards, under the charge of the ordinary and adjunct professors of medicine and surgery; and also a small gynæcological ward. It contains about 300 beds. An ophthalmic clinic is comprised in the surgical department; and the gynæcological clinic is attached to the medical.

The Lying-in Hospital or Obstetric Clinic can accommodate 30 patients; 20 beds are generally occupied. The professor of obstetrics in the Karolina Institution is *ex officio* chief physician.

The whole of the cases in the General Orphan Hospital are available for clinical instruction. The daily number of infants under one year old in the institution is from 100 to 200; sometimes it has been as high as 240. Of these, 10 or 12 per cent. are generally on the sick-list. There are also about 80 children between one and fifteen years of age. In addition, from 1,600 to 2,000 are attended yearly as out-patients. Clinical instruction is given by the professor of diseases of children for eight months in the year, and four months by his adjunct.

The Town and State Lock Hospital has 180 beds, of which, on an average, 140 are occupied daily.

The Hospital for the Insane at Konradsberg has 220 beds, which are all available for clinical instruction. The professor of psychological medicine in the Karolina Institute is the chief physician.

LICENCE AND DEGREE IN MEDICINE.

No one can practise Medicine in Sweden who has not obtained a licence from one of the three Boards. The examinations for the licence consist of two parts. The first, for the Diploma of Candidate in Medicine, embraces Anatomy, Histology, Physiology, Embryology, Medical Chemistry, Pharmacology, Toxicology, General Pathology, and History of Medicine. The candidate must, after passing the maturity examination on leaving a lyceum, have undergone a preliminary (medico-philosophical) examination in Botany, Zoology, Chemistry, and Physics, or have passed an examination as candidate in Philosophy. He must also have followed the practical laboratory courses of Chemistry, Physiology, and normal and morbid Anatomy. The examination for the licence comprises Medicine, Diseases of the Skin and Syphilis, Diseases of Children, Surgery, Obstetrics and Gynæcology, Psychiatry, Pathological Anatomy, and Forensic Medicine. The candidate must have passed the examination for candidate in Medicine, and must subsequently have attended the clinics of Medicine, Surgery, Obstetric Medicine, Diseases of Children, Syphilis, and Diseases of the Mind; and must have obtained a competent knowledge of Pharmacy. Attendance on oral lectures is not obligatory.

The degree of Doctor of Medicine is conferred by the Universities of Lund and Upsala on Licentiates of those Universities and of the Academy at Stockholm, on their presenting and defending a thesis. Attendance on lectures is obligatory for the degree.

NORWAY.

MEDICAL EDUCATION.

In the University of Christiania, which is the only School of Medicine in Norway, lectures are delivered on the following subjects: Surgery, Ophthalmic Surgery, Physiology, Midwifery, and Diseases of Women and Children, Descriptive Anatomy, Forensic Medicine, Pathology, and Therapeutics, Hygiene, Materia Medica, General Pathology and Pathological Anatomy, Surgical Pathology, Zoology, and Chemistry. Clinical instruction is given in the General Hospital on Surgery, Ophthalmic Surgery, Medicine, Diseases of the Skin and Syphilis; at the Lying-in and Children's Hospital, on the Diseases of Women and Children; at the Ganstead Asylum and at the Christiania Lunatic Asylum, on Mental Diseases; and in the Town Hospital, on Chronic Diseases. Practical instruction is also given in Chemistry, Anatomy, and Botany.

LICENCE AND DEGREE.

Before entering on the study of Medicine, the candidate has to pass two preliminary examinations; one in Arts, including Norwegian, Latin, Greek, French, German, English, Mathematics, Geography, and History; and one in Philosophy, including Geometry, Zoology, Botany, Astronomy, and the elements of Chemistry and Physics. Having passed these, he is admitted to matriculation, and afterwards studies Medicine nearly seven years.

There are three professional examinations. The first is held two and a half years after matriculation, in Anatomy, Dissections, the use of the Microscope, Physiology, and Medical Physics. The second, held three and a half years after the first, includes Pharmacology, Toxicology, Medicine, Therapeutics, General Pathology, Pathological Anatomy, Surgery, Operative Surgery, Obstetrics and Gynæcology, Diseases of Children, Forensic Medicine, Hygiene, and a practical examination in Medicine and Surgery. Practical work in the hospital wards is also obligatory.

On passing the final examination, the candidate becomes a Physician, and obtains the right to practise. To obtain the degree of Doctor, he must pass a further examination, and defend a thesis.

HOLLAND.

MEDICAL EDUCATION AND GRADUATION.

The degree of Doctor of Medicine is granted in Holland by the Universities of Leyden, Groningen, and Utrecht, and the Communal University of Amsterdam.

In each of the four towns there are a hospital, and laboratories of Physics, Chemistry, Botany, Zoology, Anatomy, Physiology, Experimental Pathology, and Pharmacy; and, in Amsterdam, laboratories of Hygiene and Pathological Anatomy.

A candidate for admission as student of Medicine must have passed one of the following examinations: 1, a Literary and Mathematical Examination (Mathematics, Dutch, French, German, and Elementary Latin); 2, an Examination for admission to an University (Mathematics, Dutch, Latin, and Greek); or, 3, he must have gone through in a satisfactory manner the classes of a Latin school (Mathematics, Geography, History, Latin, Greek, Dutch, French, German, and English). Those only who belong to classes 2 and 3 are admissible to the degree of Doctor of Medicine.

In the University, the following three examinations have to be passed—the first two years after entry, and the others at further intervals of two years: 1, Botany, Zoology, Chemistry, and Physics; 2, Anatomy, Physiology, Histology, Pharmacology, and General Pathology; 3, Internal Pathology, Surgery, Obstetrics, Pathological Anatomy, Pharmacodynamics, and Hygiene. The candidate must also present a thesis.

The Faculty grants the degree of Doctor of Medicine to those who have passed the three examinations, and who have shown, at the time of admission, that they possess a competent knowledge of Latin and Greek. The degree does not confer a right to practise.

STATE EXAMINATION.

This examination is conducted by eight professors, appointed annually and paid by the Government. The applicant for admission must be a Doctor of Medicine of some University, or possess a certificate of gymnasial maturity, or pass a preliminary literary and philosophical examination. The course of medical study must extend over at least six terms. The medical examination includes General and Special Pathology, Pharmacology, Morbid Anatomy, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, and Obstetrics.

BELGIUM.

GRADUATION IN MEDICINE.

Degrees in Medicine are granted by the Universities of Brussels, Ghent, Liège, and Louvain. The degrees, when legalised by a Government commission, give the right of practice in Belgium. The Universities of Brussels and Louvain confer also honorary titles, without licence to practise.

The examinations for the Degree of Doctor of Medicine are alike in the four Universities. 1. An examination in Natural Science must be passed before the Faculty of Science; it comprises Chemistry, Physics, Botany, Zoology, elements of Mineralogy and Geology, Logic, Psychology, and Moral Philosophy (all oral), and Practical Chemistry. This examination may be passed either entire or in two divisions. 2. An examination for candidates in Medicine must be passed, either entire or in two divisions, before the Faculty of Medicine; it comprises Descriptive Anatomy, Histology, Physiology including Embryology, Elements of Comparative Anatomy, and Materia Medica, with Dissections and Practical Histology. 3. There are three further examinations for the Doctorate: *a.* an examination (entire or in two divisions) in Medicine, General Therapeutics and Pathology, Pathological Anatomy, Hygiene, and Practical Pathological Histology; *b.* an examination in Surgery, including Ophthalmic Surgery, Obstetrics, and Forensic Medicine; *c.* a clinical examination in Medicine, Surgery, and Midwifery, and a practical examination in Regional Anatomy and Operative Surgery.

The total duration of study is seven years. The law, however, only requires that the student shall have attended hospital practice for three years.

Every student, at the beginning of the year, takes out an inscription, for which he pays 15 *francs*. For the courses required for each of the five examinations, a fee of 200 *francs* is paid. The examination fees are: for the first two examinations, each 40 *francs*; for each of the three examinations for the doctorate, 80 *francs*.

UNIVERSITY OF BRUSSELS.

DEGREE FOR FOREIGN PRACTITIONERS.

BY the regulations of the University of Brussels, British and other medical practitioners, provided with proper qualifications, are admitted to examination before the Faculty for the degree of M.D. Residence is not required from such as are unable to absent themselves long by reason of their professional occupations.

Candidates must come in person and have their names inscribed in the books of the University. The fees are: for inscription of name, 215 fr. (£8 12*s*.); for examination, 315 fr. (£12 12*s*.); for registration of diploma, 10 fr (8*s*.); total, 540 fr. (£22 12*s*.). The examination consists of three parts. 1. General Therapeutics, including Pharmaco-dynamics (proportion of doses), Special Pathology and Therapeutics of Internal Diseases, General Pathology, and Pathological Anatomy. 2. Surgical Pathology, Ophthalmic Surgery, Theory of Midwifery, Public and Private Hygiene, Medical Jurisprudence. Examination at the Hospital of one or two patients under Medical and Surgical Treatment; Examination in Midwifery, consisting in Obstetrical Operations on the *mannequin* (model of pelvis); Examination in Operative Surgery, consisting of some of the usual operations on the dead subject, such as amputation, ligature of an artery, &c.

Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science.

Examinations take place at any time between October 15 and June 20, except during Christmas and Easter. They are *vivâ voce* and written, but candidates may be exempted from the former, and confine themselves to the written tests by paying an additional fee of £1 for each test. Candidates must exhibit their qualifications or diplomas.

The three examinations may be got through in a week, allowing a day's interval between each two tests. Saturday is the most eligible day for arriving for candidates for whom time is an object. The delay of a week is, however, never exceeded by more than a day or two.

The examinations are conducted in English, through the medium of an interpreter, for such candidates as are not familiar with the French language.

RUSSIA.

GRADUATION IN MEDICINE.

DEGREES in Medicine are granted by eight universities in Russia; namely, those of Moscow, Kieff, Kasan, Charkoff, Odessa, Warsaw, Dorpat, and Helsingsfors; also by the Medico-Chirurgical Academy of St. Petersburg. Students are admitted after having gone through an eight years' course of instruction in a gymnasium, and having passed the *abiturienten-examen*. The ordinary age for commencing medical studies is 19.

The course of medical study extends over five years. The mode of instruction and the regulations are nearly alike in the several universities. The session usually begins on Sept. 1, and terminates at the end of May. The remaining three months constitute the vacation. The course of study is as follows:—

First Year: Descriptive Anatomy, with Dissection; Inorganic Chemistry; Experimental Physics; Botany; Mineralogy; and Zoology.

Second Year: Descriptive Anatomy, with Dissections; Physiology; Histology; Comparative Anatomy; Organic and Practical Chemistry; Botany; Materia Medica; and Experimental Physics.

Third Year: Pathological Anatomy and Histology, with necropsies; General Therapeutics; Auscultation and Percussion; Chemical and Microscopic Examination of Secretions and Excretions; Special Pathology and Therapeutics (Medicine); Surgical Pathology, Dislocations, and Bandaging; Diseases of the Nervous System.

Fourth Year: Clinical Medicine; Clinical Surgery; Operative Surgery and Topographic Anatomy; Gynæcology and Obstetrics; Diseases of Children; Diseases of the Skin; Venereal Diseases; Diseases of the Eye and Ear; Hygiene; Forensic Medicine and Toxicology.

Fifth Year: Clinical Medicine; Clinical Surgery; Clinical Gynæcology, aud Obstetric Operations; Clinical Courses of Diseases of Children; Venereal Diseases; Diseases of the Eye and Mental Diseases; *Post mortem* examinations.

At the end of each year the student has to undergo an examination in the subjects to which he has attended during the year; and at the end of the fifth year there is a final examination in all the subjects of the curriculum, except Natural History.

Having passed this examination, the candidate receives his diploma, which entitles him to practise in any part of the Russian Empire. There is no State examination. The examinations are public, and the examiners are the professors of the various subjects.

Two diplomas are granted. One corresponds to the title of physician or practitioner, which is granted after the above-mentioned examinations have been passed, and gives the right to practise. For the degree of Doctor of Medicine, the candidate must undergo, two years later, a further examination, and write and defend a thesis on a subject chosen by himself.

ITALY.

GRADUATION IN MEDICINE.

THE Italian Universities at which degrees in Medicine, are granted are the Royal Universities of Bologna, Cagliari, Catania, Genoa, Messina, Modena, Naples, Padua, Palermo, Pavia, Parma, Pisa, Rome, Sassari, Siena, and Turin; the free Universities of Camerino, Perugia, and Ferrara, and the Royal Institute for Superior Studies at Florence.

The regulations for graduation in medicine in the Universities of Italy are as follows.

1. The Medico-Chirurgical Faculty has the duty of giving instruction in all subjects relating to medicine and surgery, promoting the cultivation of all that is known in that field, and qualifying for the exercise of the medical profession in its various branches. 2. The course of medical and surgical study extends over six years, at the end of which free licence to practise is granted. 3. The following courses of instruction are obligatory; General Chemistry, Organic and Inorganic; Botany; Zoology, with Comparative Anatomy and Physiology; Experimental Physics; Normal Human Anatomy (*i.e.* Histology, Descriptive and Topographic Anatomy, and Dissection); Human Physiology; General Pathology; Pathological Anatomy (demonstrations and exercises); Materia Medica and Experimental Pharmacology; Special Medical Pathology (or Principles and Practice of Medicine); Special Surgical Pathology (Surgery); Clinical Medicine and Exercises in Semeiotics; Clinical and Operative Surgery; Theory and Practice of Ophthalmic Surgery; Theory and Practice of Diseases of the Skin and Syphilis; Midwifery and Clinical Midwifery; Forensic Medicine and Public Hygiene; Theoretical and Clinical Psychiatry (where opportunities exist). 4. The obligatory courses must each be attended one year; except Pathological Anatomy, of which two years are required, and Human Anatomy and Clinical Medicine and Surgery, each three years. 5. The following courses are non-obligatory or complementary: Medical Chemistry; Experimental Toxicology; Critical History of Medicine. 6. Besides these, other free courses may also be given. 7. There are three biennial examinations in the Faculty of Medicine; the first for 'promotion'; the second for 'licence'; the third for the degree of 'laureate,' with a diploma conferring full licence to practise. 8. In the Universities of Pisa and Siena the licentiate has the title of laureate of the first stage (*laurea di primo grado*). 9. In order to be admitted to the first examination (*promozione*) the candidate must have been a student at the University at least two years, and have diligently attended the courses of Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, Experimental Physics, Human Anatomy, and any subjects of instruction that he may choose, so as to make up eighteen hours of instruction per week. 10. The subjects of examination are Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, and Experimental Physics. The Examining Board consists of the official teachers of the subjects of examination, with one or two additional examiners not belonging to the teaching body. On the proposal of the Faculty, and with the consent of the Minister, the examination for promotion may be divided into two parts, one to be held at the end of the first year, and the other at the end of the second year. At the beginning of each scholastic year, the Faculty determines what courses are to be followed, and when. 11. The candidate for admission to the several examinations (licence) must have passed the first examination, have attended the University during two other years, and have diligently attended courses of Human Anatomy and Physiology, General Pathology, Practical Pathological Anatomy, Materia Medica and Experimental Pharmacology, Special Medical Pathology, Special Surgical Pathology, Clinical Medicine, and Clinical Surgery. 12. The Examining Board is constituted as in Section 10. The examination is oral, and practical as regards Human Anatomy and Materia Medica. 13. A candidate for admission to the third examination (*laurea*) must have passed the second examination, have subsequently been a student at the University during two years, and have diligently attended the courses of Clinical Dermatology and Syphilology, Clinical Ophthalmic Surgery, Midwifery and Clinical Midwifery, Clinical Psychiatry, Exercises in Pathological Anatomy, Clinical Medicine and Surgery, Operative Surgery, Forensic Medicine and Hygiene, and voluntary courses, so as to make up eighteen hours of instruction each week. 14. The candidate has to undergo an examination on the dead body and two clinical examinations. 15. The examination on the dead body is conducted by a subcommittee consisting of all the professors of Operative Surgery, Pathological Anatomy, and Forensic Medicine, with one or two assessors not belonging to the official teaching body. 16. In this examination, the candidate performs on the dead body a surgical operation, the nature of which is decided by lot. He also performs a necropsy, and draws up a description of the appearances seen. Finally, he answers the questions put to him by the examiners, and especially on the results of the necropsy, which are asked by the professor of Forensic Medicine. 17. The first clinical examination is conducted in the presence of a subcommittee consisting of the professors of Clinical Dermatology and Syphilology, Clinical Obstetrics, Clinical Psychiatry, Clinical Ophthalmology, and Forensic Medicine, with one or two extra-professorial assessors. 18. In this examination, the candidate examines four cases of diseases selected from the four special classes which have not previously been examined or treated in the clinical wards, and gives his opinion on the diagnosis, prognosis, and treatment. He afterwards answers the questions and observations of the examiners, and especially replies to the questions put by the professor of Forensic Medicine on the obstetric and psychological cases. 19. The second clinical examination is conducted in the presence of a subcommittee, consisting of the Professors of Clinical Medicine, Clinical Surgery, Medicine, Surgery, and Forensic Medicine, with one or two extra-professorial assessors. 20. The candidate examines in the presence of the subcommittee four patients, two medical and two surgical, who have not yet been examined or treated in the wards, and writes a description of the cases. He finally answers the questions asked by the examiners. 21. A student must have passed each stage of the third examination before he can be admitted to the next stage. 22. In each examination, a student rejected in one subject alone may present himself for examination in this subject only on a future occasion; but if he be rejected in two or more subjects, the whole examination must be repeated. 23. The three stages of the third examination having been passed, a committee judges of the merits of the candidates, and the successful candidates are declared Doctors in Medicine and Surgery.

Foreigners desirous of obtaining medical degrees in Italian Universities must produce a diploma or degree obtained at some recognised foreign University, and satisfactory proof that they have actually gone through all the studies and passed the examinations required for the same. They must also pass the ordinary examinations for the medical degree, and pay the fees. The examinations are usually conducted in the Italian or the Latin language.

UNITED STATES OF AMERICA.*

INSTITUTIONS GRANTING DEGREES.

The United States possess a very large number of institutions empowered by charter to grant the degree of doctor of medicine; these being in some instances special colleges and schools of medicine and surgery, and in others the medical departments of universities. The subjoined is a list of them. There are also several eclectic and homœopathic colleges, which are not included in the list.

Alabama.—Medical College of Alabama (Mobile).

Arkansas.—Medical Department of Arkansas Industrial University (Little Rock).

California.—Cooper Medical College (San Francisco): Medical Department of the University of California (San Francisco): Faculty of Medicine of the University of Southern California (Los Angeles).

Colorado.—Medical Department of the University of Denver: Medical Department of the University of Colorado (Boulder).

Connecticut.—Medical Department of Yale College (New Haven).

District of Columbia.—National Medical College, Columbian University (Washington): Medical Department of the University of Georgetown (Washington): Medical Department of Howard University (Washington): Medical Department of National University (Washington).

Florida.—Medical Department of the University of Florida (Tallahassee).

Georgia.—Medical College of Georgia (Augusta): Atlanta Medical College: Southern Medical College (Atlanta).

Illinois.—Rush Medical College (Chicago): Chicago Medical College: Women's Medical College (Chicago): College of Physicians and Surgeons of Chicago: State Board of Health of Illinois: Quincy College of Medicine.

Indiana.—Physio-Medical College of Indiana (Indianopolis): Medical College of Indiana (Indianopolis): Central College of Physicians and Surgeons (Indianopolis): Fort Wayne College of Medicine.

Iowa.—College of Physicians and Surgeons (Keokuk): Medical Department of the State University (Iowa City): College of Physicians and Surgeons of Iowa (Des Moines).

Kansas.—Medical Department of the University of Kansas (Lawrence).

Kentucky.—Medical Department of the University of Louisville: Kentucky School of Medicine (Louisville): Louisville Medical College: Hospital College of Medicine (Louisville).

Louisiana.—Medical Department of Tulane University (New Orleans).

Maine.—Medical School of Maine at Bowdoin College (Brunswick).

Maryland.—School of Medicine of the University of Maryland (Baltimore): College of Physicians and Surgeons (Baltimore): Baltimore Medical College: Women's Medical College (Baltimore): Baltimore University School of Medicine: John Hopkins University (Baltimore).

Massachusetts.—Medical Department of Harvard University (Boston): College of Physicians and Surgeons (Boston).

Michigan.—Department of Medicine and Surgery, University of Michigan (Ann Arbor): Detroit College of Medicine (Detroit).

Minnesota.—Minnesota Hospital College (Minneapolis): Medical Department of the University of Minnesota (Minneapolis): St. Paul Medical College (St. Paul).

Missouri.— State Board of Health of Missouri (St. Louis): Medical School of the University of Missouri (Columbia): Missouri Medical College (St. Louis): St. Louis Medical College: Kansas City Medical College: St. Louis College of Physicians and Surgeons: North-Western Medical College of St. Joseph: Medical Department of the University of Kansas: St. Joseph Medical College: Kansas City Hospital College of Medicine.

Nebraska.—Omaha Medical College: College of Medicine of the University of Nebraska (Lincoln).

New Hampshire.—Medical Department of Dartmouth College (Hanover).

New Jersey.—Medical Society of New Jersey.

New York.—College of Physicians and Surgeons of the City of New York: Albany Medical College: Medical Department of the University of the City of New York: Medical Department of the University of Buffalo: Long Island College Hospital (Brooklyn): Bellevue Hospital Medical College (New York): College of Medicine of Syracuse University: Women's Medical College (New York): Medical Department of Niagara University (Buffalo).

North Carolina.—Medical Department of Shaw University (Raleigh).

Ohio.—Medical College of Ohio (Cincinnati): Columbus Medical College: Starling Medical College (Columbus): Medical Department of the Western Reserve University (Cleveland): Cincinnati College of Medicine and Surgery: Miami Medical College (Cincinnati): Medical Department of the University of Wooster (Cleveland): Columbus Medical College: Toledo Medical College: North-Western Ohio Medical College (Toledo).

Oregon.—Medical Department of the Willamette University (Portland).

Pennsylvania.—Medical Department of the University of Pennsylvania (Philadelphia): Jefferson Medical College (Philadelphia): Women's Medical College (Philadelphia): Medico-Chirurgical College of Philadelphia.

South Carolina.—Medical College of the State of South Carolina (Charleston).

Tennessee.—Medical Department of the University of Nashville and Vanderbilt University (Nashville): Mehany Medical Department of Central Tennessee College (Nashville): Nashville Medical College, Medical Department of the University of Tennessee: Memphis Hospital Medical College.

Vermont.—Medical Department of the University of Vermont (Burlington).

Virginia.—Medical Department of the University of Virginia (Charlottesville): Medical College of Virginia (Richmond).

The laws regulating the practice of medicine vary in the different States. The following is an outline of the laws of each State and Territory.

Alabama.—Diplomas of Medical Colleges confer no right to practise. Licences are granted after examination by the Board of Censors of the Medical Association of the State, and the Board of Censors of the Medical Societies (43 in number) affiliated to the Association.

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* For much information regarding medical education and practice in the United States of America, we are indebted to the publications of the State Board of Health of Illinois.

Arizona (Territory). — Diplomas of regularly organised medical colleges are recognised and registered.

Arkansas.—Authorisation to practise is granted after examination by County Boards. Candidates rejected by County Boards may be examined by State Board, and receive licence if found qualified. Licences are registered, and qualify for practice throughout the State.

California.—A Board of Examiners issues certificates to holders of genuine diplomas, and examines candidates for practice who are not graduates or licentiates.

Colorado.—The State Board of Medical Examiners grants licences to graduates after examinations of their diplomas, and to other persons after an examination in medical science and practice.

Connecticut.—No law for recognition of diplomas or for examination. Itinerant practitioners are licensed.

Columbia (District).—The Medical Society of the District of Columbia grants licences after examination, or the production of a diploma from a recognised medical college or Board of Examiners.

Florida.—Boards of Medical Examiners examine and grant licences to persons not possessing diplomas.

Georgia.—Authorisation to practise is granted to holders of diplomas from incorporated medical colleges, medical schools, or universities. Practitioners must be registered in the county in which they practise.

Illinois.—The State Board of Health examines diplomas of persons desiring licence to practise, and issues certificates to those whose certificates are genuine. Other persons receive licence after examination by the Board. Certificates are registered in the counties in which the holders reside.

Indiana.—No law regulating qualifications. Practitioners of medicine are registered in the counties in which they reside.

Iowa.—No regulation as to recognition of qualifications. Cities may regulate, license, and tax itinerant practitioners.

Kansas.—The regulations are generally similar to those of California.

Kentucky.—A Board of Medical Examiners in each judicial district examines applicants and grants certificates dated for not more than five years. Diplomas of Universities, &c., are apparently not legally recognised.

Louisiana.—Degrees of Doctor of Medicine from a recognised institution in America or Europe are recognised and certified by the State Board of Health. No provision for examination of candidates for registration.

Maine.—No law regulating medical practice.

Maryland.—No Act regulating medical practice.

Massachusetts.—No law regulating medical practice.

Michigan.—Graduates of legally authorised institutions in the United States or in other countries are registered.

Minnesota.—The Faculty of the Medical Department of the University of Minnesota examines diplomas of applicants for permission to practise, and recognises them if genuine, and examines other candidates for practice. Certificates are registered by county clerks.

Mississippi.—All candidates for practice must be examined and licensed by Boards of Censors, of which one is appointed for each congressional district. Diplomas are not recognised as qualifications. Licences to practise are registered in counties.

Missouri.—Degrees in Medicine are examined and verified by the State Board of Health. Persons not holding diplomas are examined by the Board. All certificates of Board are registered in the counties in which the holders reside.

Nebraska.—Graduates of medical colleges and persons licensed after examination by medical boards of other States are entitled to registration in their respective counties. No provision for ascertaining genuineness of diplomas.

Nevada.—Diplomas of chartered medical schools are recognised and registered in counties.

New Hampshire.—Boards of Censors elected by duly organised medical societies in the State grant licences to holders of satisfactory diplomas, and to other persons after examination.

New Jersey.—Graduates of medical colleges or universities of good standing, or medical societies authorised to grant diplomas, or persons legally qualified in other States, are entitled to be registered as practitioners in the counties in which they reside.

New Mexico (Territory).—A Board of Medical Examiners examines diplomas as to their genuineness, and examines persons not holders of diplomas. Certificates are registered in counties.

New York.—All qualifications must be registered in the counties where the practitioners reside. Diplomas of other States are examined and, if approved, endorsed by an incorporated medical institution within this State. The degree of Doctor of Medicine granted within this State is a qualification to practise, when duly registered.

North Carolina.—A Board of Medical Examiners examines all applicants for licence to practise.

Ohio.—Persons are prohibited from practising who do not possess a degree from a School of Medicine in the United States or in a foreign country, or a certificate of qualification of a State or county medical society.

Oregon.—No law for regulating practice of medicine.

Pennsylvania.—Diplomas of legally chartered universities are recognised, on presentation to the protonotary of each county, and registration by him.

Rhode Island.—No regulations as to qualifications.

South Carolina.—Diplomas and qualifications are admitted, on being exhibited to the faculty of some incorporated college or the Medical Board of the State, and, on approval, registered.

Tennessee.—There are no laws regulating the practice of medicine.

Texas.—Boards of Medical Examiners grant certificates of qualification, after examination. Certificates must be registered in counties.

Vermont.—Boards of Censors appointed by organised medical societies examine diplomas and recognise them if approved, and examine candidates not having diplomas ; and grant certificates of authorisation to practise.

Virginia.—All medical practitioners must be licensed.

West Virginia.—The State Board of Health issues certificates of qualification to holders of diplomas of reputable colleges, and examines and licenses others.

Wisconsin.—Professional privileges are granted only to persons who have a diploma of some incorporated medical society or college, or who are admitted to practise after examination by a State or county medical society.

Wyoming (Territory).—No person is allowed to practise without a diploma from a chartered medical school, to be registered in the county where the holder resides.

UNIVERSITY OF PENNSYLVANIA.

THE Medical Department of this University is the oldest medical school in America, having been established in 1765 on the plan of the University of Edinburgh. The following are the professors of the faculty as at present constituted:—Dr. W. Pepper, Provost of the University and *ex officio* President of the Faculty; Dr. H. H. Smith (Surgery—*Emeritus*); Dr. Joseph Leidy (Anatomy); Dr. Richard A. F. Penrose (Obstetrics and Diseases of Women and Children); Dr. William Osler (Theory and Practice of Medicine, and Clinical Medicine); Dr. D. Hayes Agnew (Surgery and Clinical Surgery); Dr. William Pepper (Clinical Medicine); Dr. William Goodell (Clinical Gynæcology); Dr. James Tyson (General Pathology and Morbid Anatomy); Dr. Horatio C. Wood (Materia Medica, Pharmacy, and General Therapeutics); Dr. Theodore G. Wormley (Chemistry); Dr. John Ashhurst, jun. (Clinical Surgery); Dr. E. T. Reichert (Physiology); also the following clinical professors of special subjects:—Dr. W. F. Norris (Diseases of the Eye); Dr. G. Strawbridge (Diseases of the Ear); Dr. L. A. Duhring (Diseases of the Skin); L. Starr (Diseases of Children); E. T. Bruen (Physical Diagnosis).

The curriculum is arranged as follows:—*First Year:* Anatomy, Histology, Materia Medica and Pharmacy, General Chemistry, Physiology, General Pathology, General Clinics—Medical and Surgical. Final Examinations in General Chemistry, Materia Medica, and Pharmacy. *Second Year:* Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, General Clinics—Medical and Surgical. Final examinations in Anatomy, Medical Chemistry, and Physiology. *Third Year:* General Pathology and Morbid Anatomy, Topographical Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children; Gynæcology, Bedside Instruction in Practical Medicine (including Physical Diagnosis), Bedside Instruction in Practical Surgery, Practical Ophthalmology, Practical Otology, Practical Dermatology, Practical Electro-Therapeutics, General Clinics—Medical and Surgical. Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, Diseases of Women and Children). Final examinations for Degree at the end of the course. General Pathology and Morbid Anatomy, Therapeutics, Theory and Practice of Medicine, Surgery, Obstetrics, and Diseases of Women and Children.

Candidates for admission must have a collegiate degree, or a certificate of having passed the matriculation examination of a recognised college; or a certificate, covering the required subjects, from a recognised normal or high school, or from a duly organised county medical society that has instituted a preliminary examination; or a preliminary examination embracing, first, a brief essay which will serve as a test of qualifications in orthography and grammar; second, an examination in the elementary principles of physics, on the subjects considered, in Part I. of Fownes' Chemistry.

The Faculty have established a post-graduate course, which embraces various special departments. The teaching consists in bedside and dispensary lessons, the treatment, examination of patients, and the use of instruments of precision in the diagnosis and treatment of disease.

The Laboratory Building is a spacious building of four floors: the first being devoted to operative dentistry; the second and third are fitted up as chemical laboratories; while the fourth contains apartments for physiological, histological, and pathological investigation. There are also a pharmaceutical laboratory, and one of experimental therapeutics.

During the first and second years, much of the student's time is occupied with practical work in the various laboratories of chemistry, pharmacy, osteology, histology and pathological histology, and in dissection; but throughout the second and third sessions he is required to attend the general medical and surgical clinics at the University and Philadelphia hospitals, while special clinical facilities are provided for the third year. In this year, each student receives bedside instruction in clinical medicine and surgery, in physical diagnosis, and in gynæcology. Opportunities are afforded for the practical study of diseases of the eye, ear, throat, and skin, and for acquiring proficiency in the use of the various instruments employed in their treatment. For this purpose the third-year class is divided into sections of convenient size, each of which receives direct personal instruction in the various practical subjects above mentioned. Advanced students may make original researches in the laboratories of pharmacy, chemistry, physiology, pathology, and experimental therapeutics.

Students who have attended one course in a regular medical school (homœopathic and eclectic schools are not recognised) will be admitted as students of the second course in the University, after having satisfactorily passed an examination in General Chemistry and Materia Medica and Pharmacy. Students who have attended two courses in a regular medical school will be admitted as students of the third course after having satisfactorily passed an examination in General and Medical Chemistry, Materia Medica and Pharmacy, Anatomy, and Physiology. Graduates of other regular medical schools in good standing will be admitted as students of the third course without an examination. Graduates of Colleges of Pharmacy and Dental Colleges in good standing are admitted to the second course without an examination.

The candidate for the degree of Doctor of Medicine must have attained the age of twenty-one years, and be of good moral character. He must have studied medicine for three years, and have attended at least his last course of instruction in this school, have prepared a satisfactory thesis, and have passed the required examinations. Candidates who have not been successful upon a first examination will be permitted to have a second before the June commencement. The commencement for conferring the degree of Doctor of Medicine is held on the 15th day of March, unless that day should fall on a Saturday or Sunday, when it is held on the preceding Friday. The degree will not be conferred upon a candidate who absents himself from the public commencement, except by special permission of the Medical Faculty.

The entire College expenses for the three years' course is 455 dollars, including matriculation and graduation fees.

HARVARD UNIVERSITY, BOSTON.

The Medical Faculty of this University is constituted as follows: Dr. C. W. Eliot, *President*; Dr. Oliver W. Holmes, *Emeritus* Professor of Anatomy; Dr. H. J. Bigelow, *Emeritus* Professor of Surgery; Dr. H. P. Bowditch (Physiology); Dr. F. Minot (Theory and Practice of Physic); Dr. H. W. Williams (Ophthalmology); Dr. D. W. Cheever (Surgery); Dr. J. C. White (Dermatology); Dr. R. T. Edes (Assistant, Clinical Medicine); Dr. F. W. Draper (Assistant, Legal Medicine); Dr. F. T. Knight (Assistant, Laryngology); Dr. C. B. Porter (Assistant, Surgery); Dr. E. N. Whittier (Assistant, Clinical Medicine); Dr. J. Collins Warren (Assistant, Surgery); Dr. Reginald H. Fitz (Pathological Anatomy); Dr. William L. Richardson (Obstetrics); Dr. T. Dwight (Anatomy); Dr. Edward S. Wood (Chemistry); Dr. William H. Baker (Assistant, Gynæcology); Dr. W. B. Hills (Assistant, Chemistry).—Other instructors are:—Dr. S. H. Durgin (Lecturer on Hygiene); Dr. C. F. Folsom (Lecturer on Mental Diseases); Dr. H. P. Quincy (Instructor in Histology); Dr. F. A. Harris (Demonstrator of Medico-Legal Examinations); Dr. J. J. Putnam (Instructor in Diseases of the Nervous System); Dr. F. C. Shattuck (Instructor in Theory and Practice of Physic); Dr. E. H. Bradford (Assistant in Clinical Surgery); Dr. F. H. Davenport (Assistant in Gynæcology; Dr. G. M. Garland (Assistant in Clinical Medicine); Dr. J. W. Warren (Assistant in Physiology); Dr. G. W. West (Demonstrator of Bandaging and Apparatus); Dr. W. W. Gannett (Assistant in Pathological Anatomy); Dr. C. M. Green (Instructor in Obstetrics); Dr. T. M. Rotch (Instructor in Diseases of Children); Dr. C. S. Minot (Instructor in Histology and Embryology); Dr. F. H. Williams (Instructor in Materia Medica); Dr. W. C. Emerson (Assistant in Chemistry); Dr. W. J. Otis (Assistant in Operative Surgery); Dr. Samuel J. Mixter (Assistant in Anatomy); Dr. C. Harrington (Instructor in Hygiene and Assistant in Chemistry; Dr. H. C. Ernst (Demonstrator of Bacteriology); Dr. O. K. Newell (Assistant in Anatomy); Dr. H. F. Vickery (Assistant in Clinical Medicine). The following gentlemen will give special clinical instruction:—Dr. John Homans (Diagnosis and Treatment of Ovarian Tumours); Dr. T. W. Fisher and Dr. W. B. Goldsmith (Mental Diseases); Dr. Francis B. Greenough and Dr. A. Post (Syphilis); Dr. Oliver F. Wadsworth (Ophthalmoscopy); Dr. J. Orne Green and Dr. Clarence J. Blake (Otology); Dr. E. G. Cutler and W. W. Gannett (Auscultation); Dr. G. L. Walton (Diseases of the Nervous System); Dr. James R. Chadwick (Gynæcology); Dr. A. T. Cabot (Genito-urinary Surgery).

All candidates for admission who hold no degree in arts or science must pass a written examination on entrance to this School, in English, Latin, Physics, and in any one of the following subjects; French, German, Elements of Algebra or of Plane Geometry, Botany.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent. upon all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course and have passed a satisfactory examination.

The order of studies and examinations for the four years' course is as follows:—*First Year.*—Anatomy, Physiology, General Chemistry, and Materia Medica. *Second Year.*—Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy Clinical Medicine, Surgery, and Clinical Surgery. *Third Year.*—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery. *Fourth Year.*—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Forensic Medicine and Hygiene. Examinations in the subjects of the year are held at the end of each year.

The order for the three years' course is as follows: *First and Second Years.*—As for the four years' course. *Third Year.*—Therapeutics, Obstetrics. Theory of Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Forensic Medicine. The examinations of the first two years are common to both groups of students. The final examinations at the close of the third year are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Medicine, Clinical Medicine.

Every candidate for a degree must be twenty-one years of age; must have studied medicine three or four full years, have spent at least one continuous year at this School, have passed a written examination upon all the prescribed studies of the course taken, and have presented a thesis.

Course for Graduates.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies in such subjects as may specially interest them, the Faculty has established a course which comprises, in addition to the list of special departments above stated, the following branches: Anatomy; Histology; Physiology; Medical Chemistry; Pathological Anatomy; Bacteriology. Graduates of other Medical Schools who may desire to obtain the degree of M.D. at this University will be admitted to examination for this degree after a year's study in the Graduates' Course.

Fees.—The fees are: for Matriculation, 5 dollars; for the year, 200 dollars; for one term alone, 120 dollars; for Graduation, 30 dollars. For Graduates' course the fee for 1 year is 200 dollars; for one term, 120 dollars; and, for single courses, special fees. Payment is made in advance.

Students of regular standing in any one department of Harvard University have a right to attend lectures, recitations, and examinations in any othr departments without paying additional fees.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

THE sixty-second Session of this College will begin on October 1, and continue till the end of March 1887. The lectures will be delivered by the following professors: Dr. Roberts Bartholow (Materia Medica, General Therapeutics, and Hygiene); Dr. Henry C. Chapman (Institutes of Medicine and Medical Jurisprudence); Dr. J. M. Da Costa (Practice of Medicine); Dr. W. S. Forbes (Anatomy); Dr. J. H. Holland (Medical Chemistry and Toxicology); Dr. S. W. Gross (Principles of Surgery and Clinical Surgery); Dr. J. H. Brinton (Surgery and Clinical Surgery); Dr. T. Parvin (Obstetrics and Gynæcology); Dr. W. Thomson (Ophthalmology); Dr. M. Longstreth (Lectures on Pathological Anatomy).

A spring course of Supplementary Lectures is given, beginning early in April and ending early in June. There is no additional charge for this course to matriculates of the College, except a registration fee of 5 dollars; non-matriculates pay 40 dollars, 35 of which are, however, credited on the amount of fees paid for the ensuing Winter Course.

To each course of the regular curriculum there is appended a laboratory course, carried on in large and thoroughly equipped apartments in the college, by specially appointed Demonstrators, under the immediate direction of the Professor. In this way each candidate for the degree of M.D. is immediately and personally taught in obstetrics and gynæcology, physical diagnosis, laryngology, ophthalmology, medical chemistry, pharmacy, materia medica and experimental therapeutics, physiology, histology and experimental physiology, and minor surgery, bandaging, operations on the cadaver, &c. In the department of medicine there are clinical conferences and practical lessons in physical diagnosis. This course of instruction is free of charge, but obligatory upon candidates for the degree, except those who have had such instruction and those who are graduates of other colleges of ten years' standing.

Opportunities are afforded to graduates in Medicine for pursuing special courses, and for instruction in recognised specialties.

Clinical Instruction is given throughout the year at the Hospital of Jefferson Medical College, and at the Pennsylvania and other hospitals.

A candidate for the degree of M.D. must be of good moral character, and at least 21 years of age. He must have studied medicine for not less than three years, and have attended at least two full winter sessions of lectures, one of which must have been in this College. At least one course of Practical Anatomy and one of Clinical Instruction must have been attended; and he must present a thesis, of his own composition and in his own handwriting, on some medical subject. No honorary degrees in medicine are granted.

The *Fees* are: for a full Course, 140 dollars; Matriculation Fee (paid once only), 5 dollars; Practical Anatomy, 10 dollars; Graduation Fee, 30 dollars; for a full course of Lectures to those who have attended two full courses at other recognised Colleges, the Matriculation Fee and 70 dollars; to Graduates of other Colleges, of less than ten years, the Matriculation Fee and 70 dollars.

UNIVERSITY OF THE CITY OF NEW YORK.

THE Professors in the Faculty of Medicine are: Dr. Charles I. Pardee (Diseases of the Ear); Dr. Alfred L. Loomis (Pathology and Practice of Medicine); Dr. A. Ranney (Anatomy); Dr. W. H. Thompson (Materia Medica and Therapeutics, and Diseases of the Nervous System): Dr. J. W. S. Arnold (Physiology and Histology—*Emeritus*); Dr. J. Williston Wright (Surgery); Dr. Fanueil D. Weisse (Practical and Surgical Anatomy); Dr. W. M. Polk (Obstetrics and Diseases of Women and Children); Dr. L. A. Stimson (Anatomy and Clinical Surgery); Dr. R. Witthaus (Chemistry and Physics); Dr. Stephen Smith (Clinical Surgery); Dr. A. E. Macdonald (Medical Jurisprudence and Diseases of the Mind); Dr. H. Knapp (Ophthalmology); Dr. S. O. Vanderpoel (Public Hygiene); Dr. L. Johnson (Medical Botany). There are also six clinical professors: viz., Dr. Drake (Medicine); Dr. Shaffer (Orthopædic Surgery); Dr. Morrow (Dermatology); Dr. Winters (Diseases of Children); Dr. Piffard (Dermatology); and Dr. Jarvis (Laryngology). Dr. E. J. Bartlett and Dr. W. G. Thompson are Lecturers on Physiology.

The Collegiate Year is divided into three Sessions: a Preliminary Session, a Regular Winter Session, and a Spring Session.

The Regular Winter Session will begin September 29, 1886, and end about the middle of March 1887. The plan of instruction consists of didactic and clinical lectures, recitations, and laboratory work in all subjects in which it is practicable.

In addition to the ordinary clinics, special clinical instruction, without additional expense, will be given to the candidates for graduation during the latter part of the regular session in the wards of the Hospitals and at the Public and College Dispensaries.

Each of the seven Professors, or an Assistant, of Chemistry, Medicine, Anatomy, Materia Medica, Physiology, Surgery, and Obstetrics, will in one evening in each week conduct a recitation on his subject.

The Spring Session will begin about the middle of March and end the last week in May. The daily clinics and special practical courses will be the same as in the winter session, and there will be lectures on special subjects by the members of the Faculty. It is supplementary to the Regular Winter Session. Nine months of continued instruction are thus secured to all students of the University who desire a thorough course.

Fees.—These are: for Course of Lectures, 140 dollars; Matriculation, 5 dollars; Demonstrator's Fee (including material for dissection), 10 dollars; final Examination Fee, 30 dollars.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

THE teaching staff of the College consists of the following professors: Dr. Isaac E. Taylor (Obstetrics and Diseases of Women)—*Emeritus:* Dr. Fordyce Barker (Clinical Midwifery and Diseases of Women); Dr. B. W. McCready (Materia Medica and Therapeutics and Clinical Medicine)—*Emeritus:* Dr. Edward G. Janeway (Principles and Practice of Medicine, and Clinical Medicine); Dr. F. S. Dennis (Principles and Practice of Surgery and Clinical Surgery); Dr. Lewis A. Sayre (Orthopædic Surgery and Clinical Surgery); Dr. Alexander B. Mott (Clinical and Operative Surgery); Dr. Wm. T. Lusk (Obstetrics and Diseases of Women and Children, and Clinical Midwifery); Dr. A. A. Smith (Materia Medica and Therapeutics, and Clinical Medicine); Dr. Austin Flint (Physiology and Physiological Anatomy); Dr. Joseph D. Bryant (Anatomy and Clinical Surgery); Dr. R. Ogden Doremus (Chemistry and Toxicology); Dr. Henry D. Noyes (Ophthalmology and Otology); Dr. John P. Gray (Psychological Medicine and Medical Jurisprudence); Dr. Beverly Robinson (Clinical Medicine); Dr. Edward L. Keyes (Genito-Urinary Surgery, Syphilology, and Dermatology); Dr. J. L. Smith (Diseases of Children); Dr. F. H. Bosworth (Diseases of the Throat); Dr. C. A. Doremus (Adjunct to Chair of Chemistry and Toxicology); also the following lecturers: Dr. L. M. Yale (Adjunct, Diseases of Children); Dr. C. S. Bull (Adjunct, Ophthalmology and Otology).

The Collegiate Year in this Institution embraces the Regular Winter Session and a Spring Session. The Regular Session begins on Wednesday, September 22, 1886, and ends about the middle of March 1887. In addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction. Attendance upon two regular courses of lectures is required for graduation. The Spring Session consists chiefly of recitations from text-books. This Session begins about the middle of March, and continues until the middle of June. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building. The Carnegie Laboratory is open during the collegiate year, for instruction in microscopic examinations of urine, and lessons and demonstrations in histology and pathology.

Fees.—For the Regular Session: Tickets to all the Lectures, Clinical and Didactic, 140 dollars; for students who have attended two full courses at other Medical Colleges, and for graduates of less than three years' standing of other Medical Colleges, 70 dollars; Matriculation fee, 5 dollars; Dissection fee (including material for dissection), 10 dollars; Graduation fee, 30 dollars. No fees for lectures are required for graduates of three years' standing, or of third-course students who have attended their second course at the Bellevue Hospital Medical College. For the Spring Session: Matriculation (ticket valid for the following winter), 5 dollars; Recitations, Clinics, and Lectures, 40 dollars; Dissection (ticket valid for the following winter, 10 dollars).

The Matriculation Examination consists of English composition; Grammar, an examination upon the above-mentioned composition; Arithmetic, including vulgar and decimal fractions; Algebra, including simple equations; Geometry, first two books of Euclid. This examination will be waived for those who have received the degree of A.B., those who have passed the freshman examination for entrance into any incorporated literary college, those who have passed a matriculation examination at any recognised medical college or at any scientific school or academy in which an examination is required for admission.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

THIS is otherwise known as the Medical Faculty of Columbia College.

Candidates for the Degree of Doctor of Medicine must have attended two full courses of lectures on Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Surgery, Pathology, and Practical Medicine; the second course must have been given in this College. Students are permitted—and are recommended—to complete the two full courses by attendance during three or more sessions, taking only certain branches in each session. Candidates must have studied Practical Anatomy during one winter session; have been engaged during three years in the study of medicine under a regular physician or surgeon; have attained the age of 21 years; and be of good moral character. Each candidate must present a thesis on some medical subject, and pass an examination in the seven branches of medical science above mentioned.

The examinations for the degree of Doctor of Medicine are in writing, and are held twice a year: viz., 1, immediately after the close of the lectures of the college year in May; 2, during the second and third weeks of September. According to the merits of his thesis and examinations, three results of the latter are possible in the case of a candidate for the degree of M.D. 1. He is 'passed' when his thesis and examinations have been satisfactory in each and all of the seven principal branches of medical teaching. 2. He is 'conditioned' when the average merit of his thesis and examinations has been satisfactory, while in one or more branches he has been found deficient. In this case the candidate can proceed to his degree only on the condition that he first pass a re-examination in the deficient branch or branches, not sooner than at the next regular semi-annual examination. 3. He is 'rejected' when the average merit of his thesis and examination has been unsatisfactory; *in this case the candidate must be re-examined in all the seven branches,* but the writing of a new thesis is rarely required.

Final examinations are held twice a year: viz., immediately after the close of the lectures of the college year, and during the third and fourth weeks of September.

Students who have attended two courses of lectures (one being at this College) on Anatomy, Physiology, and Chemistry, may be examined on these subjects at the end of their second course; and the examination, if satisfactory, is accounted final.

Students and graduates of other schools are admitted under special regulations.

The fees are: Yearly matriculation, 5 dollars; Course of Lectures each Session, 140 dollars, or 20 dollars for each course; Practical Anatomy, 10 dollars; and graduation fee, 30 dollars.

NEW YORK POST-GRADUATE SCHOOL.

In 1882 there was founded in New York an institution under this name, for the purpose of giving instruction in medical science and practice to gentlemen who had obtained degrees in medicine.

No undergraduates are admitted, and no degrees are conferred, but the School is open to all legalised practitioners, and it is especially available for the young graduate who wishes to acquaint himself with the practical duties of his profession, or for older practitioners who are desirous of taking up some special branch of medicine, or who wish to familiarise themselves with the modern advances in diagnosis and treatment. The instruction is given by means of clinics, subjects, and specimens. There are no lectures except clinical lectures, and no demonstrations without subjects and specimens.

The Dispensary, and the Hospitals to which the instructors are attached, furnish more than 16,000 patients annually for the illustration of General Medicine and Surgery, Mental and Nervous Diseases, Gynæcology, Obstetrics, Genito-Urinary Diseases, Cutaneous and Syphilitic Affections, Orthopædic Surgery, Diseases of Children, Diseases of the Eye and Ear, and of the Throat and Nose. The new Anatomical Room provides for studies in Practical Anatomy and Operative Surgery on the dead body. Practical Pharmacy and Medical Chemistry are taught in the Chemical and Pharmaceutical Laboratories. The new Histological and Pathological Laboratory is also most thoroughly equipped. In the Department of Applied Anatomy, instruction is given on living models, as well as on the dead subject. In addition to the above, the various members of the Faculty hold positions and give instruction in various hospitals and dispensaries.

Each department of the School is open throughout the entire year, and special facilities are given to those who desire to prosecute any line of study, at any time.

The year is divided into two Terms, the *Regular* and the *Intermediate*. During the Regular Term, instruction is carried on by the Professors, Associate Professors, and Lecturers. There is but one course, of four months, in the Intermediate Term. A daily clinic is held throughout this period.

Practitioners may enter the School at any time, and take one or more courses of seven weeks' duration, in any department. Special advantages are secured by those who take several courses or pursue continuous studies. Candidates for the *Army* and *Navy* will have special instruction in Civic, Naval, and Military Hygiene, Examination of Recruits, &c.

The Faculty of the School is constituted as follows: Dr. William A. Hammond (Professor of the Diseases of the Mind and Nervous System, and of Medical Electricity); Dr. D. B. St. John Roosa (Professor of the Diseases of the Eye and Ear, President of the Faculty); Dr. Frederic R. Sturgis (Professor of the Diseases of the Skin and Genito-Urinary Organs, and of Venereal Diseases); Dr. Clinton Wagner (Professor of the Diseases of the Nose and Throat); Dr. Thomas E. Satterthwaite (Professor of Pathology and General Medicine); Dr. Charles L. Dana (Professor of the Diseases of the Mind and Nervous System, and of Medical Electricity); Dr. M. Josiah Roberts (Professor of Orthopædic Surgery and Mechanical Therapeutics); Dr. Alexander J. C. Skene (Professor of the Diseases of Women); Dr. Andrew H. Smith (Professor of Clinical Medicine and Therapeutics); Dr. William O. Moore (Professor of the Diseases of the Eye and Ear); Dr. William F. Fluhrer (Professor of Clinical Surgery); Dr. Bache McE. Emmet (Professor of Diseases of Women); Dr. Edward Kershner (Professor of Naval, Military, and State Hygiene); Dr. Ambrose L. Ranney (Professor of the Anatomy and Physiology of the Nervous System); Dr. William H. Porter (Professor of Clinical Medicine and Pathology); Dr. George H. Fox (Professor of the Diseases of the Skin); Dr. Stephen S. Burt (Professor of Physical Diagnosis); Dr. Seneca D. Powell (Professor of Minor Surgery); Dr. C. A. Von Ramdohr (Professor of Obstetrics); Dr. Horace T. Hanks (Professor of Diseases of Women); Dr. H. J. Garrigues (Professor of Obstetrics); Dr. Lewis S. Pilcher (Professor of Clinical Surgery); Dr. Herbert G. Lyttle (Associate Professor of Genito-Urinary Diseases, and of Venereal Diseases); Dr. Graeme M. Hammond (Associate Professor of the Diseases of the Mind and Nervous System); Dr. J. R. Nilsen (Associate Professor of Diseases of Women); Dr. G. B. Hope (Associate Professor of Diseases of the Nose and Throat).

CANADA.

MEDICAL EXAMINING BODIES.

The following are the Medical Examining Bodies and Schools in the Dominion of Canada.

Ontario.—Toronto School of Medicine, affiliated with the University of Toronto and the University of Victoria College; Trinity Medical School, affiliated with the Universities of Trinity College, Toronto, and Manitoba; Royal College of Physicians and Surgeons, affiliated with the Queen's University; Medical Department of the Western University, London; Women's Medical College, affiliated with the University of Trinity College, Toronto; Women's Medical College, Kingston, affiliated with Queen's University.

Quebec.—Medical Department of McGill University; École de Médecine et de Chirurgie, affiliated with the University of Victoria; Medical Department of Laval University; Faculty of Medicine, University of Bishop's College; College of Physicians and Surgeons of Quebec.

Nova Scotia.—Halifax Medical College; Medical Faculty of Dalhousie University, Halifax.

Manitoba.—Manitoba Medical College, affiliated with the University of Manitoba.

Practitioners of Medicine in Canada must be registered. The possession of a degree of Doctor of Medicine, granted by a recognised University, entitles its holder to registration in all the provinces except Ontario. In Quebec, it is optional with the Provincial Board to accept or reject the degree of an University outside the province, and sometimes its holder is required to undergo an examination. In Ontario, all except registered practitioners of Great Britain must pass an examination before registration. Graduates of American Medical Schools, in order to register must, unless holding an academical degree, (1) pass a matriculation examination; (2) attend a Canadian school one or more winter courses, so as to complete the curriculum of the province; (3) pass a professional examination. In Manitoba, however, all that is required of

American graduates is a practical examination in the several branches of Medicine.

UNIVERSITY OF TORONTO.

The degree of Bachelor of Medicine may be obtained, either (1) by taking a Pass Course, or (2) by taking an Honour Course.

Candidates must pass the Matriculation Examination unless (1) they possess a Degree in Arts, not being Honorary, from any Dominion or British University; or (2) they have already matriculated in the Faculty of Arts, or in the Faculty of Law in this University; or (3) they have been registered as students in the College of Physicians and Surgeons of Ontario. They must also produce satisfactory certificates of good conduct, and of having completed the sixteenth year of their age. The Matriculation Examination (both Pass and Honours) commences in the latter part of June, and Supplemental Examinations (Pass alone) are held in the latter part of September, when those who were rejected in June, as well as new candidates, may present themselves. Candidates on giving notice of intention to present themselves must signify whether they propose taking the Pass or the Honour Examination. Scholarships are only awarded in connection with the latter. The following groups of subjects must be passed: (1) Two out of four languages—Latin, Greek, French, and German—one of which must be Latin; (2) Mathematics, including Arithmetic, Algebra to the end of Quadratics, and the first three books of Euclid; (3) English Grammar, Composition, and Dictation, with the Outlines of English History and the Geography of America and Europe.

Undergraduates must attend lectures and receive practical instruction during four years, at a recognised School of Medicine. Each undergraduate, at the end of each of the four years, may present himself at the Annual Examination; or he may take the primary examination at the end of the second and the final examination at the end of the fourth year. Graduates in Arts of this University, with honours in the department of Natural Sciences, are exempted from the First Professional Examination, and from the fee for the same. They must, however, take Anatomy along with the Second Professional Examination.

The following are the certificates required for the different examinations, and the subjects of examination.

First Professional Examination.—Certificates are required: 1. Of Matriculation; 2. Of having attended a course of lectures on each of the following subjects: Anatomy, 100 lectures; Physiology and Inorganic Chemistry, each 60; Natural Philosophy, 20; Botany and Zoology, each 30. 3. Of practical instruction in Anatomy during six months.

Second Professional Examination.—Candidates must produce certificates: 1. Of having attended lectures on Anatomy, Physiology, Materia Medica, and Therapeutics, each 100 lectures; Organic Chemistry; 2. Of Practical Instruction in Anatomy, six months; Histology and Physiological Chemistry, each three months; 3. Of having dissected the human body once; 4. Of being skilled in Compounding and Dispensing Drugs.

Third Professional Examination.—The candidates must produce evidence: 1. Of having attended lectures on Practice of Medicine, Surgery, and Obstetrics, each 100 lectures; Clinical Surgery and Medicine and General Pathology, each 50; 2. Of having dissected the human body a second time; 3. Of Practical Instruction in Pathological Histology during three months.

Fourth Professional Examination.—Candidates must produce evidence: 1. Of having attended lectures on:—Clinical Medicine and Surgery, and Forensic Medicine, each 50 lectures; Hygiene, 25; Medical Psychology, 12; 2. Of Practical Instruction in Chemistry in its application to Hygiene and Forensic Medicine; 3. Of having attended at least six clinics in a Public Lunatic Asylum; 4. Of having conducted at least six Labours; 5. Of proficiency in Vaccination; 6. Of attendance in the wards of a Public Hospital accommodating not less than 100 beds during eighteen months; 7. Of attendance for six months on the out-practice of a Hospital, Dispensary, or registered Practitioner; 8. Of having attended twelve Necropsies.

Candidates for Honours are entitled to First Class Honours in any of the Professional Examinations if they obtain 75 per cent. of the aggregate marks; those who obtain 66 per cent. will be entitled to Second Class Honours. Extra papers on all the Pass Subjects will be set for Honour Candidates, as well as papers on certain extra Honour subjects, viz., Comparative Anatomy of the Vertebrata, Natural Philosophy, the Physiology of Nerve, Muscle, Circulation, &c. Candidates proceeding to the Degree of M.B. by taking the Honour Courses are grouped in two classes. Those receive the Degree with First Class Honours who have been placed in the First Class Honour List in the second, third, and fourth Professional Examinations. Those receive their Degree with Second Class Honours who have been placed in the Honour List in the second, third, and fourth Professional Examinations.

Scholarships, &c.—The following Scholarships are annually offered for competition: At Matriculation, one of 100 dollars and one of 50 dollars; at each of the first three Professional Examinations, one of 120 dollars and one of 80 dollars. The First Year Scholarships are not open to Graduates in Arts with Honours in the Department of Natural Sciences. No Professional Scholarship will be awarded to any Candidate who has not obtained First Class Honours in the Examination for which it was conferred. Each Scholarship is tenable for one year only, but the Scholar of one year is eligible for the Scholarship of a succeeding year. A gold medal and three silver medals are offered annually for competition among the Undergraduates who have obtained the degree of M.B., with First Class Honours, and are awarded according to the percentage of marks in the aggregate results of the second, third, and fourth Professional Examinations; but the gold medal is only awarded on the special recommendation of the Examiners. Prizes, each of the value of 10 dollars, in books, may be awarded annually among undergraduates in Law, Medicine, and Arts, for the best Composition in Greek Verse, Greek Prose, Latin Verse, Latin Prose, English Verse, English Prose, French Prose, or German Prose. Certificates of Honour will be given to those students who, at any of the examinations, have been placed in the First Class in Honours in any Department. One gold and two silver medals, called the 'Starr Medals,' are conferred upon the three Bachelors of Medicine who have attained, in the course of their Annual Professional Examinations, the highest marks in the following subjects: Anatomy for the first and second years, and in Surgical Anatomy of the third year; Physiology for the first and second years, and Histology, Physiological Chemistry and Practical Physiology of the second year; General Pathology and in Morbid Anatomy and Histology of the third year. Every recipient of the medal must have attained the standing of First Class in each of the above-mentioned subjects, and must have been classed in Honours in the Fourth Professional Examination.

Degree of M.D.—Candidates for the Degree of M.D. must be of one year's standing from admission to the Degree of M.B., and must have composed an approved thesis upon some medical subject.

Fees.—The fees are: Matriculation, 5 dollars; each Professional Examination, 2 dollars; Degree of M.B., 20 dollars; Degree of M.D., 20 dollars; admission *ad eundem gradum*, 20 dollars.

UNIVERSITY OF TRINITY COLLEGE.

A candidate for the Degree of Doctor of Medicine and Master of Surgery in this University must have passed the Matriculation Examination in Arts or Medicine of Trinity College, or of some other recognised University, or that of the College of Physicians and Surgeons of Ontario or Quebec, or that of the Law Society of Upper Canada, or an examination equivalent to any of the above. The subjects of the Medical Matriculation Examination are: Writing and Dictation; English Language; Arithmetic; Algebra (including Simple Equations); Euclid (first Two Books); Latin (Cæsar, *De Bello Gallico*, Books I. and II., or Books V. and VI.; or, *Bellum Britannicum*; or Cicero, *De Lege Maniliâ*; or Virgil, *Æneid*, Book II.); and one of the following subjects: Scripture History, and St. Matthew's Gospel, ch. i. to ix., in Greek; Greek, (Xenophon's *Anabasis*, Book I.); French (Voltaire's *Charles XII.*, Books VI. to VIII.); German (Schiller's *Thirty Years' War*, Book I.); or Natural Philosophy.

The candidate must produce a satisfactory certificate of good conduct, must be 21 years of age, and must have regularly attended lectures extending over four winter sessions, or have studied one year with a medical practitioner, and have subsequently attended lectures during three winter sessions. He must have attended, before the primary examination, two courses of six months each on Anatomy, Practical Anatomy, Chemistry, Materia Medica and Therapeutics, and Physiology, including Histology, and one course of three months of Practical Chemistry, including Toxicology and Botany. Before the final examination, he must have attended two courses of six months each on Medicine, including Pathology, Surgery, Midwifery, and Diseases of Women and Children; two courses of three months each on Medical Jurisprudence, and one course on Sanitary Science. He must also have attended for at least eighteen months the practice of some General Hospital, and have attended, during two sessions, Clinical Lectures on Medicine and Surgery; and, for at least six months, the practice of a Lying-in-Hospital; or he must have otherwise enjoyed equivalent obstetrical advantages, with attendance upon at least six cases of Labour.

The examinations are Primary and Final. The Primary Examination embraces Descriptive Anatomy, Physiology, including Histology, General Chemistry and Chemical Physics, Practical Chemistry, Botany, Materia Medica and Therapeutics, and Toxicology. It may be passed at the close of the second year.

The Final Examination embraces Theory and Practice of Medicine, including Medical Pathology, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Medical Jurisprudence, and Sanitary Science. It takes place at the close of the fourth year.

The Primary and Final Examinations may be taken together at the end of the fourth year. Registered practitioners holding British or Colonial Diplomas, who furnish satisfactory evidence that they have passed an examination equivalent to the Primary, are required to pass only the Final Examination. The examinations are held annually in the spring.

Certificates of Honour are given to students who pass in first-class honours. Medals are awarded to students who attain at least 75 per cent. of the maximum number of marks.

Fees.—These are: Primary Examination, 10 dollars; Final ditto, 14 dollars. Full Fee, including all College Examinations, 24 dollars. Candidates rejected at either the Primary or the Final Examination have the fee returned, less 5 dollars.

TRINITY MEDICAL SCHOOL.

This School is in affiliation with the University of Trinity College; also with the Universities of Toronto and Manitoba; and is recognised by the Royal Colleges of Physicians and Surgeons of Great Britain, and by the Corporate Examining Boards in London, Edinburgh, and Dublin.

The Faculty consists of the following professors: Dr. W. B. Geikie (Medicine and Clinical Medicine); Dr. J. Fulton (Surgery and Clinical Surgery); Dr. J. L. Davison (Materia Medica and Therapeutics); Dr. H. Robertson (Anatomy); Dr. J. A. Temple (Obstetrics and Diseases of Women and Children); Mr. T. Kirkland (General Chemistry and Botany); Dr. C. W. Covernton (Sanitary Science); Dr. F. Le M. Grasett (Medical Jurisprudence); Dr. W. T. Stuart (Practical Chemistry); Dr. C. Sheard (Physiology and Histology); Dr. G. S. Ryerson (Lecturer on the Eye, Ear, and Throat); Dr. L. Teskey (Pathology); Dr. G. A. Bingham (Assistant Demonstrator of Anatomy); Mr. T. M. Hardie (Zoology, &c.).

The Medical Council of Ontario requires that every one who desires to be registered as a medical student must present to the registrar the official certificate of having passed the High School Intermediate Examination, or the Third-class non-Professional Examination with Latin included. These Examinations must include English Grammar, English Literature, Composition, Dictation, Arithmetic, Algebra and Euclid, History and Geography, Latin. Students who may have passed either of these examinations without Latin can complete the examination by going up, before registration, for Latin only. Graduates in Arts, or students who have Matriculated in Arts in any University in his Majesty's dominions, are not required to pass any further Matriculation Examination. The Universities of Trinity College and of Toronto, Queen's University, and Trinity Medical School, do not insist on the Matriculation Examination being passed before attendance on medical lectures, but strongly recommend that it should be passed as soon after entering as possible, and in any case before the Primary Professional Examination. Evidence of having passed the Matriculation Examination in any British or Colonial University, or that required by the Medical Council of Ontario, or by the various Colleges of Physicians or Surgeons in Great Britain and Ireland, or that of the College of Physicians and Surgeons of Quebec, or that of the Law Society of Ontario or Quebec, or having passed an examination recognised as equivalent to any of the above, is also accepted by Trinity Medical School, and by the University of Trinity College. Non-matriculated students from the Maritime Provinces, Manitoba, and the North-West, the West Indies, or other British Colonies, the United States, or from any quarter, who do not take the Council's examinations, are admitted to attend lectures in the School. But if such desire to graduate at Trinity College, they must present themselves for the Trinity University Medical Matriculation Examination. Students who are not graduates or matriculates in Arts, who desire to graduate in the University of Toronto, must take the Medical Matriculation of that institution.

The matriculation of the Universities may be passed at any time before graduation.

The Toronto General Hospital has a large number of patients in the wards, who are visited daily by the medical officers in attendance. The attendance of out-door patients daily is also very large. The Fever Hospital, the Burnside Lying-in Hospital, and the Eye and Ear Hospital are also in the same grounds. The Toronto Dispensary is open to students free of charge.

Daily Clinical instruction is given by members of the Hospital Staff on all interesting cases, Medical and Surgical. Special Clinical instruction is also given by the Professors of Midwifery at the Burnside Hospital, and by other members of the Staff of the Hospital, on Diseases of Women and Children, and on Practical Midwifery, and special Practical Instruction at the Eye and Ear Department of the Hospital is also regularly given, as well as on Dermatology.

Professional Examinations are conducted at the close of the first, the second, and the last sessions, and are known as the First Year's, the Primary, and the Final Examinations respectively.

1. *First Year.*—Anatomy of the Bones, Ligaments, Muscles, also the Viscera of the Abdomen and Thorax. Candidates for this examination must present a certificate of having dissected an upper and a lower extremity. The Physiology of the Elementary Tissues, also of Respiration, Circulation, and Digestion. Elementary Materia Medica. Inorganic Chemistry, including chemical theory. Physics: heat, light, and electricity. Botany.—A supplementary first year's examination will be held on the first Saturday in November.

2. *Primary.*—Descriptive Anatomy, Physiology and Microscopic Anatomy, Chemistry, Theoretical and Practical, Toxicology, Botany (when not passed at the end of the first year), and Materia Medica. The primary examination may be passed at the close of the second winter session.

3. *Final.*—Theory and Practice of Medicine and Medical Pathology, Principles and Practice of Surgery, including Surgical Anatomy, Midwifery and Diseases of Women and Children, Medical Jurisprudence, and Sanitary Science. Should the candidate desire it, he may undergo his entire examination in all the branches at the end of the last session.

Certificates of Honour are awarded annually in all the professional examinations, to candidates who obtain not less than 75 per cent. of the total number of marks.

Scholarships and Medals.—Five scholarships are offered for competition in this school as follows. Three First Year's Scholarships, value 50, 30, and 20 dollars respectively, will be competed for at the close of the first session. Two Second Year's Scholarships are open to competition, at the close of the second winter session, to all students who have taken out their entire primary course at this school; value 50 and 30 dollars respectively. Scholarships are awarded only to the candidates who stand highest in the Honour lists. A gold and two silver medals are open to competition annually, at the close of their last session, by students undergoing examination in the school in the final branches.

Fellowship Diplomas.—Under the authority of the Special Act of the Legislature, incorporating the school, diplomas are awarded at the close of the final examination to candidates whose standing has been sufficiently high to merit them. This diploma is recognised by the examining boards in Great Britain.

Candidates for examination for the School Fellowship Diploma must have passed a recognised matriculation examination, and spent four years in pursuit of medical studies, and attended at least two full courses of primary and two courses of final lectures during either three or four winter sessions. A certificate of good moral character is required.

Appointments open to Students.—The Board of Trustees of the Toronto General Hospital annually appoint two students of the school as hospital assistants. The members of the Faculty who belong to the acting hospital staff each appoint two or more students to act as clinical clerks and dressers, whose duties are to take notice of the cases under treatment, and to carry out such directions as they may receive from the Professors. These positions are tenable for three months.

There are appointed annually two students who have distinguished themselves as anatomists, as prosectors, who prepare the material required for the lectures on anatomy; also two assistants to aid the demonstrators; and two assistants in physiological demonstration.

Fees.—The following are the fees: Anatomy, Surgery, Practice of Medicine, Obstetrics, Materia Medica, Physiology, General Chemistry, Clinical Medicine, and Clinical Surgery, 12 dollars each; Practical Anatomy, Practical Chemistry, Normal Histology and Pathological Histology, 8 dollars each; Medical Jurisprudence, 6 dollars; Botany and Sanitary Science, 5 dollars each; Registration, payable once only, 5 dollars. Optional Branches—Surgical Appliances, Pharmacy, Zoology, and Medical Psychology, 5 dollars each. All students who pay the fees for two full courses of lectures in any branch, are entitled to a perpetual ticket for that branch except Practical Anatomy, Practical Histology, Normal or Pathological, and Practical Chemistry, every course of which must be paid for. Botany and Sanitary Science are charged for once only. All fees must be paid in advance. The fees for the school examination are; for each 5 dollars, Hospital fees: Toronto General Hospital, perpetual, 20 dollars; Lying-in Hospital, six months, 5 dollars,

FACULTY OF MEDICINE OF McGILL UNIVERSITY, MONTREAL.

THE Faculty consists of the following professors and lecturers :—Sir William Dawson, LL.D., F.R.S. (Principal, Natural History); Dr. W. Wright (*Emeritus*); Dr. R. P. Howard (Medicine); Dr. Duncan C. McCallum (*Emeritus*); Dr. R. Craik (*Emeritus*); Dr. G. E. Fenwick (Surgery); Dr. Joseph M. Drake (*Emeritus*); Dr. G. P. Girdwood (Chemistry); Dr. George Ross (Clinical Medicine); Dr. T. G. Roddick (Clinical Surgery); Dr. William Gardner (Gynæcology); Dr. F. J. Shepherd (Anatomy); Dr. F. Buller (Ophthalmology); Dr. J. C. Cameron (Midwifery and Diseases of Women); Dr. James Stewart (Materia Medica and Therapeutics); Dr. D. P. Penhallow (Botany); Dr. George Wilkins (Medical Jurisprudence, and Lecturer on Histology); Dr. R. L. Macdonnell (Hygiene); Dr. T. W. Mills (Physiology); Dr. W. Sutherland (Assistant Demonstrator of Anatomy); Dr. G. W. Major (Instructor in Laryngology); Dr. A. D. Blackader (Instructor in Diseases of Children); Dr. R. J. B. Howard (Assistant Demonstrator of Anatomy); Dr. R. F. Ruttan (Assistant to the Professor of Chemistry); Dr. W. G. Johnston (Demonstrator of Pathology); Dr. C. E. Cameron (Clinical Instructor to University Maternity Hospital); Dr. James Bell (Assistant to the Professor of Clinical Surgery).

The Matriculation Examination comprises the following subjects: English Language (including Grammar and Composition), Arithmetic (including Vulgar and Decimal Fractions), Algebra (including Simple Fractions), Geometry (first two books of Euclid), Latin (Translation and Grammar), and one of the following optional subjects: Greek, French, German, Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics). Graduates in Arts of recognised universities are not required to submit to the Matriculation Examination, and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

Candidates for the degree of Doctor of Medicine and Master of Surgery must be 21 years of age, must have studied medicine four years, one session being at this school, and must pass the necessary examinations. Graduates in Arts of recognised universities, and students who produce evidence of having studied a year with a physician subsequent to passing the Matriculation Examination, can qualify for examination after attendance on three sessions.

Candidates for the Final Examination must furnish testimonials of attendance on the following courses: Descriptive Anatomy, Practical Anatomy, Chemistry, Materia Medica and Therapeutics, Institutes of Medicine, Physiology, General Pathology, Surgery, Midwifery and Diseases of Women and Children, Medicine, Clinical Medicine, Clinical Surgery—each two six-months' courses; Medical Jurisprudence and Hygiene—one course of six months, or two courses of three months; Practical Chemistry, Botany—each one three-months' course; not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology, and Pathology. Testimonials equivalent to, though not precisely the same as those above stated, may be presented and accepted. The candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the University or other approved Lying-in Hospital, and have attended at least six cases of labour.

The examinations at the close of each session are arranged as follows: *First Year.*—Elementary Anatomy and Physiology, Chemistry (Chemical Physics and Chemical Philosophy), Materia Medica, Practical Anatomy, Botany. *Second Year.*—Primary Pass Examination: Anatomy, Practical Anatomy, Physiology, Chemistry, Practical Chemistry, Materia Medica. *Third Year.*—Sessional Examination: Medical Jurisprudence with Toxicology, Hygiene,* Medicine, Surgery, Midwifery. *Fourth Year.*—Final Pass Examination: Medicine, Surgery, Midwifery, Clinical Medicine, Clinical Surgery, Medical Anatomy, Surgical Anatomy.

The Sessional Examinations at the close of the first and third years are compulsory. At the Primary Examination at the end of the second year, the student may leave two branches for the third year; in any case, Chemistry and one other must be taken at the end of the second year.

The fifty-fourth session will commence on Oct. 1, and will be continued until the end of the following March; this will be followed by a Summer Session, commencing about the middle of April and ending the first week in July.

The Primary subjects are now all taught practically as well as theoretically. For the department of Anatomy, besides a commodious and well-lighted dissecting-room, there is a special anatomical museum and a bone-room. The other branches are also provided with large laboratories for practical courses. There are a Physiological Laboratory, well stocked with modern apparatus; a Histological Laboratory, supplied with thirty-five microscopes; a Pharmacological Laboratory, in which experiments will be performed demonstrating the action of drugs, &c.; a large Chemical Laboratory, capable of accommodating 76 students at work at a time. Besides these, there is a Pathological Laboratory, well adapted for its special work, and associated with it are two 'culture' rooms, in which the various forms of Bacteria are cultivated and experiments on Bacteriology carried on.

About a year ago, at a great expense, extensive additions were made to the building, and the old one entirely remodelled, so that, besides the Laboratories, there are two large lecture-rooms capable of seating 300 students each, also a demonstrating-room for a smaller number. There is also a Library of over 10,000 volumes, and a museum, as well as Reading-rooms for the students.

Matriculation.—Students from Ontario and Quebec are advised to pass the Matriculation Examination of the Medical Councils of their respective Provinces before entering upon their studies. Students from the United States and Maritime Provinces must present themselves for the Matriculation Examination of the University on the first Friday of October or the last Friday of March.

The Montreal General Hospital has an average number of 150 patients in the wards, the majority of the cases being acute. The shipping and large manufactories contribute many accidents and surgical cases. In the out-door department there is a daily attendance of between 75 and 100 patients. Clinical clerkships and dresserships can be obtained on application to the members of the Hospital staff. The University dispensary was established for the purpose of affording to senior students practical instruction in diseases of women. Three other special departments have been added, viz. : Diseases of Children, Diseases of the Skin, and Diseases of the Nervous System. The clinical teaching is conducted in the wards and theatre of the General Hospital, daily, throughout the session. Ample opportunities are afforded to the student to investigate the cases.

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* May be taken at the end of the second year.

The fees, arranged according to years, are as follows :—First year, 69 dollars ; second year, 88 dollars ; third year, 97 dollars ; fourth year, 65 dollars ; Hospital Ticket, 8 dollars ; Lying-in Hospital (six months), 8 dollars ; Matriculation, 5 dollars ; Graduation, 30 dollars. All fees are payable strictly in advance.

BISHOP'S COLLEGE UNIVERSITY FACULTY OF MEDICINE, MONTREAL.

THE Faculty consists of the following professors and teachers : Dr. F. W. Campbell (Principles and Practice of Medicine); Dr. J. B. Edwards (*Emeritus*, Practical Chemistry); Dr. R. A. Kennedy (*Emeritus*, Obstetrics and Diseases of Children) ; Dr. J. Perrigo (Surgery); Dr. J. B. McConnell (Materia Medica and Therapeutics) ; Dr. Casey A. Wood (Pathology) ; Dr. G. E. Armstrong (Physiology); Dr. H. L. Reddy (Obstetrics) ; Dr. D. Gaherty (Hygiene) ; Dr. E. H. Trenholme (Gynæcology) ; Dr. G. B. Rowell (Anatomy) ; Dr. H. L. Reddy (Medical Jurisprudence) ; Dr. A. L. Smith (Medical Jurisprudence) ; Rev. J. B. Saunders, M.D. (Botany) ; Mr. J. T. Donald (Chemistry) ; Dr. A. Proudfoot (Ophthalmology and Otology) ; also the following lecturer, Mr. J. Bemrose (Practical Chemistry).

This University confers the degrees of Doctor of Medicine and Master of Surgery. The degree of Master of Surgery (C.M.) is not conferred on any person who does not at the same time obtain the degree of Doctor of Medicine (M.D.) Each student must undergo, prior to the commencement of his medical studies, a Preliminary Examination upon the following subjects : English, French, Latin, Arithmetic, Algebra, Geometry, History, Belles-Lettres, and one of the following optional subjects : Greek, Natural and Moral Philosophy. Candidates for degrees must have been engaged uninterruptedly for four years in medical and surgical study ; but a certificate of having studied one full year with a duly licensed practitioner reduces the period of study at the University to three sessions. Students must matriculate afresh at the commencement of every session, on or before the 1st of December. Every candidate for graduation must be 21 years of age, and must give evidence by certificates of having attended : 1. Two six-months' courses of lectures on each of the following subjects : (*a*) General or Descriptive Anatomy, Practical Anatomy, Surgery, Medicine, Midwifery and Diseases of Women and Children, Chemistry, Materia Medica, and Therapeutics, Physiology, Clinical Medicine, and Clinical Surgery ; (*b*) One six-months' course or two three-months' courses of Medical Jurisprudence, one six-months' course of Pathology, one three-months' course of Botany, of Hygiene, and also of Practical Chemistry and Microscopy, and also a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology, and Pathology ; Clinical Medicine and Clinical Surgery ; courses of Practical Anatomy ; (*c*) For the last eighteen months, or three periods of six months each, the medical and surgical practice of a hospital in which are contained not less than fifty beds, under the charge of not less than two physicians or surgeons ; for at least six months compounding and dispensing medicines ; at least six cases of midwifery.

Of the four years of medical and surgical study, one full course on each branch mentioned in sections *a* and *b* must be attended in this University.

Every candidate is examined both in writing and *vivâ voce*. The Examinations are divided into Primary and Final. The Primary Examination comprehends Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, and Botany or Zoology. The Final Examination includes Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Midwifery and the Diseases of Women and Children, Medical Jurisprudence, Pathology, and Hygiene.

Candidates may be admitted to examination on the Primary branches at the end of the third year of their study. The Final Examination does not take place until the candidate has completed his fourth year.

The session of the Faculty will open on Monday, Oct. 4, 1886. Students may attend the practice of either the Montreal General Hospital (200 beds) or of the Hôtel-Dieu Hospital (200 beds). At the Montreal General Hospital facilities are afforded for the study of Practical Pathology, under the direction of the Pathologist of the Hospital. The practice of the Montreal Dispensary is open to the students of Bishop's College. The Woman's Hospital, under the supervision of the Faculty, is divided into two departments—Obstetrical and Gynæcological. The Gynæcological Department is attended by the Professors of Bishop's College. Two gold medals ('The Wood' and the 'Robert Nelson' gold medals) and the 'Dr. David' Scholarship are competed for annually.

Fees.—The fees for the classes of Pathology, Hygiene, Botany, and Practical Anatomy, are 6 dollars each ; Medical Jurisprudence, 10 dollars ; Practical Histology, 16 dollars ; all other classes, 12 dollars each. Degree of Doctor of Medicine and Master in Surgery, 20 dollars ; Registration Fee, 1 dollar.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ALL persons, whatever qualifications they may possess, must be examined by this College in order to obtain a licence to practise in the province of Ontario.

Candidates for the membership of this College must spend four years (forty-eight months) in professional studies after having passed a matriculation examination in the English Language, Arithmetic, Algebra (including Simple Equations), Geometry (first two books of Euclid), Latin (Translation and Grammar), and either Greek, French, German, or Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics). Graduates in Arts, or students who have matriculated in arts in any University in the British dominions, are not required to pass the Matriculation Examination ; and Graduates in Arts may pass the Final Examination at the end of three years.

Every candidate must have attended, in an university, college, or school of medicine, two courses of six months each (each course consisting of not less than 100 lectures) in Anatomy, Practical Anatomy, Physiology, Theoretical Chemistry, Materia Medica and Therapeutics, Medicine, Surgery, Midwifery and Diseases of Women and Children, Clinical Medicine and Clinical Surgery; two courses, of three months each, in Medical Jurisprudence; one course of three months in Practical Chemistry, including Toxicology and Botany; one course of twenty-five demonstrations on Natural Histology, and a similar course on Pathological Histology; and one course of twenty lectures on Sanitary Science.

Before being admitted to the Final Examination the candidate must have spent six months in compounding medicine, have attended the practice of a general hospital for twenty-four months, have attended six courses of Midwifery, and have attained the age of twenty-one years.

The Professional Examination is divided into primary and final. The Primary Examination, at the end of the second winter session, comprises Descriptive Anatomy, Physiology and Histology, Theoretical and Practical Chemistry, Toxicology, Materia Medica and Therapeutics, and Botany. The Final Examination comprises Medical and Surgical Anatomy, Theory and Practice of Medicine, Medical and Surgical Pathology, Surgery and Operative Surgery, Midwifery and Diseases of Women and Children, Operative Midwifery, and Medical Jurisprudence.

Any candidate who passes in three or more branches, but fails in the others, is required to pass in the latter only at a subsequent examination.

Persons from recognised colleges outside the provinces of Ontario and Quebec must pass the matriculation examination, and afterwards attend one full winter course of lectures during two winter sessions in some one of the Ontario Medical Schools, and such other course or courses as may be necessary to complete the required curriculum: and must pass all the examinations.

The *Fees* are: Registration of Matriculation Examination, 20 dollars; Primary Examination, 20 dollars; Final Examination, including Registration, 30 dollars. Unsuccessful candidates are admitted to one subsequent examination without additional payment.

MEDICAL FACULTY OF DALHOUSIE UNIVERSITY, HALIFAX.

This institution was organised in 1867, incorporated as the Halifax Medical College in 1876, and reorganised under its present title in 1885.

Candidates for medical degrees must give evidence of having obtained a satisfactory general education before entering upon the course of study qualifying for the degrees, by passing either one or other of the matriculation examinations of this Faculty, or some other examination recognised by the senate as sufficient. The lower matriculation examination satisfies the requirements of the General Medical Council of Great Britain as to the preliminary examination which must be passed by persons wishing to register as medical students; and a certificate of having passed enables the holder thereof to register as a medical student in Great Britain. The higher examination satisfies the requirements of the University of Edinburgh in the same respect. Certificates will be issued to candidates showing the subjects in which they passed, and the extent to which their knowledge of these subjects was tested. A certificate of the possession of a university degree in Arts or of having passed the matriculation examination of the Provincial Medical Board of Nova Scotia shall be considered by this university sufficient evidence of satisfactory general education.

Candidates for the Degree of M.D. and C.M. must pass two examinations—the Primary and the Final Examinations.

Primary Examination.—I. Candidates must produce certificates: (1) of having passed the matriculation examination, or other examination recognised as sufficient, at least two academic years previously, and of having completed their sixteenth year at the date of passing the said examination; (2) of having, after passing the matriculation or other equivalent examination, attended in the Halifax Medical College or in some school of medicine approved by the senate, two courses of 100 lectures each, in each of the following subjects, viz., Anatomy, Chemistry, Materia Medica, and Physiology; and two courses of instruction of the same duration in Practical Anatomy, in the course of which they shall have dissected the whole body at least twice; (3) of having, after passing the matriculation examination, attended either in this University, in the Halifax Medical College, or in some other university or college, approved by the senate, one course of instruction of fifty lessons each in Botany and in Practical Chemistry; (4) either of having, after passing the matriculation examination, attended at the Halifax Medical College or at some college approved by the senate, one course of instruction of fifty lessons in Practical Pharmacy, or of having had three months' practice in the dispensing of drugs with a recognised apothecary or dispensing medical practitioner. Candidates must pass written and oral examinations in Chemistry (including Practical Chemistry), Botany, Anatomy (including Practical Anatomy), Physiology and Materia Medica (including Practical Pharmacy). Candidates may appear for examination in Botany one academic year after passing the matriculation examination.

Final Examination.—I. Candidates for this examination must furnish certificates: (1) that they have completed their twenty-first year or that they will have done so on or before the day of graduation (this certificate shall be signed by themselves); (2) of having passed the primary examination at this university, or at the Halifax Medical College prior to its affiliation with this University, or of having been admitted to the standing of an undergraduate who has passed this examination on certificates from recognised medical schools; (3) of either (*a*) having attended during four academic years at least two courses of lectures per year in subjects of the primary and final examination either in this University or at the Halifax Medical College, or at some other recognised medical school, or (*b*) having spent one calendar year in the study of medicine in the office or offices of one or more registered medical practitioners, and having subsequently attended during three academic years courses of lectures as above; (4) of having attended at least two courses of lectures during at least one academic year at the Halifax Medical College, and of having paid the fees for one course of lectures in each of the subjects of the examinations at that college; (5) of having, after passing the matriculation examination, at the Halifax Medical College, or at some school of medicine approved by the senate, two courses of 100 lectures each in each of the following subjects, viz., Surgery, Obstetrics, and Diseases of Women and Children, and Medicine; two courses of lectures of 50 lectures each in each of the following subjects, viz., Clinical Medicine and Clinical Surgery; and one course of 50 lectures in Medical Jurisprudence; (6) of having, after passing the matriculation examination, attended during one calendar year the practice of the provincial and city hospital or that of some other hospital approved by the senate; (7) of having attended for at least six months the practice of a lying-in hospital, approved by the College, or of having attended at least six cases of Midwifery, under a recognised practitioner; (8) of having obtained proficiency in the practice of vaccination under a recognised practitioner. Candidates must pass written and oral examinations in the following subjects :—Principles and Practice of Medicine, Obstetrics, and Diseases of Women and Children, Principles and Practice of Surgery, and Medical Jurisprudence. The oral examinations in Medicine and Surgery shall include clinical examinations conducted at the bedside, cases being submitted for diagnosis and treatment. Candidates may appear for examination in Medical Jurisprudence alone, three academic years after passing the matriculation examination, on presentation of the certificates specified above so far as they apply to this subject.

The examinations are held in the third week of April. Candidates must transmit the certificates to the Secretary of the Senate at least fourteen days before the date of the examination, enter their names in the register of undergraduates before the date of examination, and pay on registration one-half of the graduation fee. Should the candidate fail to pass, the fee will not be returned to him; but he will be admitted to any one subsequent examination without fee.

Fees.—The following fees are payable in all cases in advance :—Registration, 2 dollars; Matriculation Examination, 10 dollars; Chemistry Class, 12 dollars; Chemistry Laboratory (three months' course), 6 dollars; Botany Class, 6 dollars; Graduation, 20 dollars.

AUSTRALASIA.

LAWS REGULATING THE PRACTICE OF MEDICINE.

THE following is a summary of the chief laws regulating the Practice of Medicine in the Australasian Colonies.

New South Wales.—Any person who shall prove that he has had a regular course of medical education of not less than three years' duration, and, after due examination, has received a degree from the University of Sydney, or a degree or diploma from any other body duly recognised in the country to which the applicant belongs, and entitling him to practise therein, shall be deemed to be a legally qualified medical practitioner, and shall be entitled to a certificate from the Medical Board.

New Zealand.—The holders of British and Irish degrees, diplomas, and licences registrable under any Act of the Imperial Parliament; persons who have received in any country a degree or diploma entitling them to practise Medicine or Surgery; and duly qualified Medical Officers of the Army and Navy; are entitled to be registered. Every applicant must give notice of his intention to the Registrar, and produce his diploma or other evidence of qualification. The notice of application shall be published in a newspaper; and the Registrar, if he see fit after examination, may refuse to enter the name of the applicant. The fees payable are: on deposit of evidence of qualification, £1; certificate of registration, 5*s.* For alteration of qualification in the Register, the fee is 10*s.*; for any other alteration in the Register, 5*s.*

Queensland; South Australia; Tasmania; Victoria. The conditions under which qualified practitioners can be registered are in general similar to those above described.

UNIVERSITIES GRANTING DEGREES IN MEDICINE.

THE Universities in Australasia, and the degrees in Medicine and Surgery which they grant, are: Sydney (New South Wales)—Bachelor of Medicine, Doctor of Medicine, and Master of Surgery; Otago (New Zealand)—Bachelor and Doctor of Medicine; Adelaide (South Australia)—Bachelor of Medicine; Melbourne—Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master of Surgery.

Medical Schools providing for a complete curriculum of professional study are attached to the Universities of Sydney, Otago, and Melbourne. The Medical School of the University of Adelaide, which was opened in 1885, provides only instruction in the elementary subjects—Natural Science, Chemistry, Anatomy, and Physiology.

TEXT-BOOKS.

THE object of the subjoined notes is to inform the student in general terms of the works which he may use as text-books. The list is not intended to be exclusive: nor is it our purpose to say always which book is the best in any subject. Some students learn best from one book, others from another. Again, some books are more adapted than others to the teaching of the school to which the pupil belongs. In addition to the ordinary text-books, reference will be made to some which, though not absolutely necessary to the student, may be studied with advantage.

ANATOMY AND PHYSIOLOGY.

BESIDES the descriptions of the anatomy of the bones in the chief text-books, such as those of Quain and Wilson, there are also some special works on the subject. Among them are Mr. Luther Holden's *Human Osteology* (sixth edition, J. & A. Churchill). The same firm publishes a *Student's Guide to Osteology*, by Mr. Wagstaffe. There is also Mr. Norton's *Osteology for Students* (Baillière, Tindall, & Cox). The anatomy of the joints is especially and ably treated in Mr. Henry Morris's *Anatomy of the Joints of Man* (J. & A. Churchill). For the early study of anatomy, Mr. St. George Mivart's *Elementary Lessons in Anatomy* (Macmillan & Co.) will be found instructive. Among the indispensable text-books treating of human anatomy as a whole are Quain's *Elements of Anatomy* (Longmans & Co.), ninth edition, by Dr. Allen Thomson, Mr. Schäfer, and Mr. Thane; Gray's

Anatomy, tenth edition, by Mr. Pick (Longmans & Co.); and Wilson's *Anatomist's Vade-Mecum*, tenth edition, by Dr. G. Buchanan and Mr. H. E. Clark of Glasgow (J. & A. Churchill). For use in the dissecting-room, Ellis's *Demonstrations of Anatomy* (ninth edition, Smith, Elder, & Co.) has long established its claim as a trustworthy guide. It contains reduced copies of plates in the author's *Illustrations of Dissections*, a work which is most valuable for assistance. Other good books for dissectors are Mr. Christopher Heath's *Practical Anatomy* (sixth edition, J. & A. Churchill); Dr. Carrington's *Manual of Dissections of the Human Body* (George Bell & Sons); Holden & Langton's *Manual of Dissection* (fifth edition, J. & A. Churchill); Dr. Cleland's *Directory for the Dissection of the Human Body* (second edition, Smith, Elder, & Co.); a *Dissector's Guide*, with illustrations, by Dr. D. J. Cunningham (Maclachlan & Stewart); and Mr. Bruce Clarke's *Dissector's Manual* (Cassell & Co.). The first part of the *Manual of Practical Anatomy*, by Dr. Cossar Ewart (Smith, Elder, & Co.), has appeared. Messrs. Hensman & Fisher's *Anatomical Outlines for the Use of Students in the Dissecting-Room and Surgical Class-Room* (Longmans & Co.) are useful. Treves's *Surgical Applied Anatomy* (Cassell & Co.) and Curnow's *Medical Applied Anatomy*, are useful text-books. Braune's *Atlas of Topographical Anatomy*, translated and edited by Mr. Bellamy (J. & A. Churchill), is a valuable book of reference. The drawings are made from plane sections of foreign bodies. There are also Professor W. Turner's *Atlas of Human Anatomy* (A. Johnston), Bock's *Atlas of Human Anatomy* (Renshaw), Mr. Godlee's *Atlas of Human Anatomy* (J. & A. Churchill), and Allen & Shakespeare's *System of Human Anatomy* (Henry Kimpton); also Mr. Flower's *Diagrams of the Nerves of the Human Body* (third edition, J. & A. Churchill); and a *Student's Atlas of Bones and Segments*, by Mr. Cathcart and Mr. Caird (W. & A. K. Johnston). *A Descriptive Atlas of Anatomy*, by Mr. Noble Smith, is published by Smith, Elder, & Co. There are also the well-known *Quain and Wilson's Anatomical Plates* (Smith, Elder, & Co.). Mr. Thomas Cooke's *Tablets of Anatomy and Physiology* (second edition) contain much information in a condensed form, and give useful aid in the study of the larger works. To students interested in the study of Zoology and Comparative Anatomy we would recommend, as works that will give much information without being too large or costly, Mr. Flower's *Osteology of the Mammalia* (Macmillan & Co.), and Dr. H. A. Nicholson's *Manual of Zoology* and *Advanced Text-Book of Zoology* (Blackwood); as well as Huxley's *Manuals of the Anatomy of Vertebrated and Invertebrated Animals* (J. & A. Churchill), Huxley and Martin's *Practical Biology*, Dr. Macalister's *Manuals of Zoology of the Invertebrate and of the Vertebrate Animals* (Longmans & Co.), and Mr. F. J. Bell's *Manual of Comparative Anatomy and Physiology* (Cassell & Co.). Professor Gegenbauer's *Elements of Comparative Anatomy*, translated by Mr. F. J. Bell (Macmillan & Co.), is a very complete work. For the study of Embryology, the chapter by Dr. Allen Thomson in Quain's *Anatomy*, or the *Elements of Embryology*, by Dr. M. Foster and Mr. Balfour (second edition, Macmillan & Co.), should be consulted. The subject has been most ably treated by the late Mr. Balfour in a *Treatise on Comparative Embryology* (Macmillan & Co.).

For instruction in Histology, Mr. Schäfer's *Course of Practical Histology* (Smith, Elder, & Co.), Mr. Schäfer's *Essentials of Histology* (Longmans, Green, & Co.), Dr. Stirling's *Text-Book of Practical Histology* (Smith, Elder, & Co.), Dr. Klein's *Elements of Histology* (third edition, Cassell & Co.), and Dr. Heneage Gibbes' *Practical Histology and Pathology* (second edition, H. K. Lewis) are excellent guides; as are also the chapter on General Anatomy in Quain's *Anatomy*, and Dr. Rutherford's *Outlines of Practical Histology* (J. & A. Churchill). The *Atlas of Histology*, by Dr. E. Klein and Mr. Noble Smith (Smith, Elder, & Co.), is a valuable work for reference. Other works which will be found useful are Professor Stricker's collection of essays on *Human and Comparative Histology* (New Sydenham Society), Heinrich Frey's *Histology and Histo-chemistry of Man*, translated by Mr. Barker (J. & A. Churchill), and Dr. Satterthwaite's *Manual of Histology* (Sampson Low & Co.).

In Physiology, the beginner will find trustworthy guides in Huxley's *Lessons in Elementary Physiology* and Huxley and Martin's *Elementary Biology* (both published by Macmillan & Co.); and, as text-books for use in medical schools, Dr. McKendrick's *Outlines of Physiology in Relation to Man* (Maclehose, Glasgow; and Macmillan & Co.), Kirkes's *Handbook of Physiology*, edited by Mr. Morrant Baker and Dr. V. D. Harris (eleventh edition, John Murray), Dr. Michael Foster's *Text-book of Physiology* (fourth edition, Macmillan & Co.), and Dr. Gerald Yeo's *Manual of Physiology* (J. & A. Churchill), and Mr. Power's *Manual of Human Physiology* (Cassell & Co.) are to be recommended; and, for more advanced students, Dr. L. Hermann's *Elements of Physiology*, translated by Professor Gamgee (second edition, Smith, Elder, & Co.), Flint's *Text-book of Human Physiology* (H. K. Lewis), Dr. Landois' *Text-book of Human Physiology*, translated by Dr. Stirling (second edition, C. Griffin & Co.), and Dr. Carpenter's *Principles of Human Physiology*, by Mr. Power (ninth edition, J. & A. Churchill). Dr. Pye-Smith's *Syllabus of a Course of Lectures on Physiology* (J. & A. Churchill) will be found useful for self-examination. For instruction in Practical Physiology, Dr. Burdon Sanderson has prepared a manual of *Practical Exercises in Physiology* (second edition, H. K. Lewis). *An Elementary Course of Practical Physiology*, by Dr. M. Foster and Mr. Langley (Macmillan & Co.) is also a book that can be recommended to beginners; while the elaborate *Handbook for the Physiological Laboratory*, by Drs. Sanderson, Klein, Foster, and Brunton (J. & A. Churchill), is more fitted for those who desire an extended knowledge of practical physiology.

As guides in the use of the Microscope, there are Dr. Beale's *Microscope in Medicine*, Dr. Carpenter on the *Microscope* (sixth edition, J. & A. Churchill), Wythe's *Microscopist's Manual* (third edition, J. & A. Churchill), Marsh's *Microscopical Section Cutting* (second edition, J. & A. Churchill), Martin's *Manual of Microscopic Mounting* (second edition, J. & A. Churchill), A. B. Lee's *Microscopist's Vade-Mecum* (J. & A. Churchill).

CHEMISTRY.

In Chemistry, among the most approved text-books, are Fownes' *Manual of Chemistry*, edited, in two volumes, *Inorganic and Organic*, by Mr. Watts (thirteenth edition, J. & A. Churchill); Roscoe's *Lessons in Elementary Chemistry;* Miller's *Elements of Chemistry* (Longmans & Co.); Bloxam's *Chemistry, Inorganic and Organic* (fifth edition, J. & A. Churchill); Williamson's *Chemistry for Students* (Macmillan & Co.); Tidy's *Handbook of Modern Chemistry* (J. & A. Churchill); and Frankland and Jopp's *Inorganic Chemistry* (J. & A. Churchill). An elaborate *Treatise in Chemistry*, by Professors Roscoe and Schorlemmer, of Owens College, Manchester, is published by Macmillan & Co. For Practical Chemistry there is a work by Mr. Bloxam on *Laboratory Teaching* (fifth edition, J. & A. Churchill); and one on *Experimental Chemistry*, by Dr. J. E. Reynolds (Longmans & Co.). Bowman and Bloxam's *Practical Chemistry*, eighth edition (J. & A. Churchill) has an established reputation as a practical guide. There is also a little work by Dr. J. C. Brown on *Practical Chemistry* (J. & A. Churchill).

For instruction in Physiological and Medical Chemistry, there are Dr. T. C. Charles's *Elements of Physiological and Pathological Chemistry* (Smith, Elder, & Co.) and Dr. Ralfe's *Clinical Chemistry* (Cassell & Co.). As guides in the examinations of urine, there are Dr. Wickham Legg's *Guide to the Examination of the Urine* (sixth edition, H. K. Lewis); Dr. G. Oliver's *Bedside Urine Testing* (third edition, H. K. Lewis); and Dr. Whittaker's *Student's Primer on the Urine* (J. & A. Churchill). A second edition of Dr. Thudichum's *Pathology of the Urine* is published by J. & A. Churchill.

BOTANY.

AMONG text-books of Botany, Bentley's *Student's Guide to Structural, Morphological, and Physiological Botany* (fourth edition, J. & A. Churchill); Bentley's *Systematic Botany* (Churchill); Henfrey's *Elementary Course of Botany*, third edition, by Dr. M. T. Masters (Van Voorst); Balfour's *Manual of Botany* (A. & C. Black); Oliver's *Lessons in Elementary Botany* (Macmillan & Co.); Thome's *Botany*, translated by Bennet; Behrens' *Text-book of General Botany*, translated by Mr. P. Geddes (Y. J. Pentland); Prantl and Vine's *Text-book of Botany.* Sachs' *Text-book of Botany*, translated by Mr. A. W. Bennett and Mr. W. T. Dyer (Macmillan & Co.), is a valuable work of reference in regard to Structural and Physiological Botany. Bentley and Trimen's admirable plates of *Medicinal Plants* (J. & A. Churchill) should be consulted bythe student both of Botany and Materia Medica.

MATERIA MEDICA AND THERAPEUTICS.

A WELL-KNOWN and useful book as a manual of Materia Medica is Dr. Garrod's *Essentials of Materia Medica and Therapeutics*, edited by Dr. Terard (eleventh edition, Longmans & Co.). It requires, however, to be supplemented by a treatise on Therapeutics, for which purpose Dr. Ringer's *Handbook of Therapeutics* (eleventh edition, H. K. Lewis), Dr. Waring's *Manual of Practical Therapeutics* (fourth edition, J. & A. Churchill), Dr. Farquharson's *Guide to Therapeutics* (fourth edition, Smith, Elder, & Co.). Dr. Milner Fothergill's *Practitioner's Handbook of Treatment* (second edition, Macmillan & Co.) will be of value to those who are interested in the endeavour to show the agreement between science and practice. Dr. H. C. Wood's *Treatise on Therapeutics* (sixth edition, Smith, Elder, & Co.) pays special attention to the therapeutic action of drugs. Other useful books are Dr. Lauder Brunton's *Text-book of Pharmacology, Therapeutics, and Materia Medica* (second edition, Macmillan & Co.), Dr. W. G. Smith's *Commentary on the British Pharmacopœia* (Smith, Elder, & Co.), Royle and Harley's *Manual of Materia Medica and Therapeutics,* (sixth edition, J. & A. Churchill), Neligan's *Medicines*, edited by Mr. R. Macnamara (Fannin & Co.), Dr. Phillips's *Materia Medica and Therapeutics* (new edition, J. & A. Churchill), Dr. Whitla's *Pharmacy, Materia Medica, and Therapeutics*, third edition (Renshaw), Dr. Mitchell Bruce's *Manual of Materia Medica and Therapeutics* (Cassell & Co.), Dr. Scoresby-Jackson's *Note-book of Materia Medica*, edited by Dr. Moinet (fourth edition, Machlachlan & Stewart; and Simpkin, Marshall, & Co.); Dr. Handsel Griffith's *Materia Medica and Pharmacy*, edited by Dr. Duffey (Baillière, Tindall, & Cox; and Fannin & Co., Dublin), Dr. R. Bartholow's *Practical Treatise on Materia Medica and Therapeutics* (fifth edition, H. K. Lewis); Dr. Thorowgood's *Student's Guide to Materia Medica* (second edition, J. & A. Churchill), Craig's *Manual of Materia Medica and Therapeutics* (fourth edition, Livingstone, Edinburgh; and Simpkin, Marshall, & Co.). Dr. F. T. Roberts' *Notes on Materia Medica and Pharmacy* (H. K. Lewis), and Dr. Isambard Owen's manual of *Materia Medica* (second edition, J. & A. Churchill), Dr. Lauder Brunton's *Tables of Materia Medica* (new edition, Smith, Elder, & Co.), form a most comprehensive and valuable syllabus, and will be very useful to the student. Dr. W. H. Griffith's *Lessons on Prescriptions, and the Art of Prescribing* (Macmillan & Co.) is an useful work.

As text-books in the application of Electricity to Medicine, besides Dr. Althaus's *Treatise on Medicinal Electricity* (Longmans & Co.), the following are likely to prove useful to students :—a *Text-book of Electricity in Medicine and Surgery*, by Dr. G. V. Poore (Smith, Elder, & Co.); a *Handbook of Medical and Surgical Electricity*, and *How to Use a Galvanic Battery*, by Dr. H. Tibbits (second edition, J. & A. Churchill); Dr. A. de Watteville's *Practical Introduction to Medical Electricity* (second edition, H. K. Lewis); Dr. Roberts Bartholow's *Medical Electricity* (Kimpton); and Dr. Hughes Bennett's *Electro-Diagnosis in Diseases of the Nervous System* (Lewis).

PATHOLOGY.

As a manual of Pathology, Dr. T. H. Green's *Introduction to Pathology and Morbid Anatomy* (sixth edition, Renshaw) has gained a deservedly high reputation. The *Lectures on Pathological Anatomy* of Drs. Wilks and Moxon (second edition, J. & A. Churchill), and Dr. J. F. Payne's improved edition of Jones and Sieveking's *Manual of Pathological Anatomy* (J. & A. Churchill), Dr. G. S. Woodhead's *Practical Pathology* (second edition, Y. J. Pentland), and Dr. J. Coats' *Manual of Pathology* (Longmans, Green, & Co.), and Mr. J. B. Sutton's *Introduction to General Pathology* (J. & A. Churchill), are also good books. A second edition of an English translation of Virchow on *Post Mortem Examinations: the Method of Performing them*, is published by J. & A. Churchill. Messrs. Smith, Elder, & Co. have published a *Manual of Necropsy*, by Dr. A. H. Newth, which is intended as a guide to the performance of *post mortem* examination. There are also a *Manual of Surgical Pathology*, by Mr. A. J. Pepper (Cassell & Co.), and a work on *Pathological Anatomy*, by Ziegler. We would also strongly recommend students to consult, and to possess, if possible, Rindfleisch's *Manual of Pathological Histology*, edited by the New Sydenham Society. Other highly valuable works for reference are Dr. Greenfield's translation of Lancereaux's *Atlas of Pathological Anatomy* (J. & A. Churchill), and an English translation by Mrs. Ernest Hart of a *Manual of Pathological Anatomy*, by Cornil and Ranvier (Smith, Elder, & Co.).

The interest which has in late years been excited in the study of micro-organisms in their relation to disease, has called forth several works, which may be consulted with advantage. Among them may be mentioned Mr. E. M. Crookshank's *Introduction to Practical Bacteriology* (H. K. Lewis); Mr. Watson Cheyne's Collection of Recent Essays by various authors on Bacteria in Relation to Disease (New Sydenham Society); and Professors Cornil and Babes' treatise on *Les Bactéries et leur Rôle dans l'Anatomie et l'Histologie Pathologiques* (F. Alcan, Paris.)

MEDICINE.

For the student who is commencing his clinical studies there are several very good guide-books. Among them are Dr. A. W. Barclay's *Manual of Medical Diagnosis* (third edition, J. & A. Churchill); Dr. S. Fenwick's *Student's Guide to Medical Diagnosis* (sixth edition, J. & A. Churchill); Dr. Graham Brown's *Manual of Medical Diagnosis* (Bell & Bradfute, and Simpkin, Marshall, & Co.); Dr. O. Sturges' *Introduction to the Study of Clinical Medicine* (Smith, Elder, & Co.); Dr. Finlayson's *Clinical Manual for the Study of Medical Cases* (Smith, Elder, & Co.); and Dr. Warner's *Student's Guide to Medical Case-taking*, second edition (J. & A. Churchill); Dr. Churton's *Method of Case reporting for Clinical Clerks*. More advanced students and practitioners may consult with advantage Dr. Da Costa's *Medical Diagnosis* (third edition, Smith, Elder, & Co.). As a guide in physical diagnosis, Dr. Gee's *Auscultation and Percussion* (third edition, Smith, Elder, & Co.) may be safely trusted; also Dr. S. West's *How to Examine the Chest*. Other useful books for the same purpose are Dr. Flint's *Manual of Percussion and Auscultation* (J. & A. Churchill); and Dr. Reginald Thompson's *Physical Examination of the Chest in Health and Disease* (H. Renshaw).

Among text-books in General Medicine, which may be recommended for the use of the student, are Dr. F. T. Roberts' *Handbook of the Theory and Practice of Medicine* (sixth edition, H. K. Lewis); Dr. Bristowe's *Theory and Practice of Medicine* (fifth edition, Smith, Elder, & Co.); Dr. Tanner's *Practice of Medicine* (edited by Dr. Broadbent, seventh edition, Renshaw); Dr. Aitken's *Science and Practice of Medicine* (seventh edition, C. Griffin & Co.); Dr. H. Hartshorne's *Essentials of the Principles and Practice of Medicine* (fifth edition, Smith, Elder, & Co.); Dr. Flint's *Clinical Medicine* (J. & A. Churchill); Dr. Aitken's *Outlines of the Science and Practice of Medicine* (second edition, C. Griffin & Co.); Dr. Flint's *Principles and Practice of Medicine* (fifth edition, Kimpton); Dr. Roberts Bartholow's *Treatise on the Practice of Medicine* (fifth edition, H. K. Lewis); Dr. Charteris' *Student's Guide to the Practice of Medicine* (third edition, J. & A. Churchill); Dr. A. Carter's *Elements of Practical Medicine* (fourth edition, Lewis); and the *Principles and Practice of Medicine*, by the late Dr. Hilton Fagge, edited by Dr. Pye-Smith (J. & A. Churchill). The advanced student and the practitioner will do well to consult Dr. Russell Reynolds' *System of Medicine* (five volumes, Macmillan & Co.); Trousseau's *Lectures on Clinical Medicine* (New Sydenham Society); Ziemssen's *Cyclopædia of the Practice of Medicine* (Sampson Low & Co.); Dr. Niemeyer's *Text-Book of Practical Medicine* (H. K. Lewis); Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (Longmans & Co.). Dr. Quain's *Dictionary of Medicine* is also a valuable work for reference.

SURGERY.

Mr. Erichsen's *Science and Art of Surgery* (eighth edition, by Mr. M. Beck, Longmans & Co.), Mr. Holmes's *Surgery—its Principles and Practice* (fourth edition, Smith, Elder, & Co.), Mr. Bryant's *Practice of Surgery* (fourth edition, J. & A. Churchill), and Mr. Gant's *Science and Practice of Surgery* (third edition, Baillière, Tindall, & Cox), are all very complete works, one of which should be in the possession of the student. For those who prefer smaller and more condensed works, there is the well-known Druitt's *Surgeon's Vade-Mecum* (twelfth edition, J. & A. Churchill). Mr. Christopher Heath has brought out a *Student's Guide to Surgical Diagnosis* (second edition, J. & A. Churchill). There is also a manual of *Surgical Diagnosis*, by Mr. A. P. Gould (Cassell & Co.). Other books which may be consulted with advantage are, Mr. Holmes's and Mr. Hulke's *System of Surgery* (third edition, Longmans & Co.), Mr. Spence's *Lectures on Surgery* (A. & C. Black), Dr. S. D. Gross's *System of Surgery* (sixth edition, Smith, Elder, & Co.), and Billroth's *Lectures on Surgical Pathology and Therapeutics* (H. K. Lewis). Mr. Watson Cheyne's *Antiseptic Surgery*, and his *Manual of the Antiseptic Treatment of Wounds* (Smith, Elder, & Co.), are standard works on the subject of which they treat.

For the guidance of the student who is being instructed in practical and operative surgery, there are several good books. Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging* (seventh edition, J. & A. Churchill) has for several years enjoyed a high reputation. The *Manual of Operative Surgery on the Dead Body*, by Mr. Thomas Smith and Mr. Walsham (Longmans & Co.); Mr. Christopher Heath's *Guide to Surgical Diagnosis* (second edition, J. & A. Churchill); Mr. Berkeley Hill's *Essentials of Bandaging* (fifth edition, Lewis); Mr. Bellamy's *Student's Guide to Surgical Anatomy* (third edition, J. & A. Churchill); Mr. Joseph Bell's *Manual of the Operations of Surgery* (fourth edition, Maclachlan & Stewart); Pye's *Surgical Handicraft* (Trübner & Co.); and Stimson's *Operative Surgery* (Lewis), are also works which can be recommended. *Surgical Operations*, by Sir W. Mac Cormac (Smith, Elder, & Co.); a *Manual of Regional Surgery*, by Mr. F. A. Southam (J. & A. Churchill), is an useful work; and a *Manual of Operative Surgery*, by Dr. Joseph D. Bryant (Bermingham & Co.), are also good practical works. Other works most valuable for reference are Mr.

Jonathan Hutchinson's *Illustrations of Clinical Surgery*, consisting of plates, woodcuts, &c., illustrating surgical diseases, symptoms, accidents, operations, &c., published in fasciculi by J. & A. Churchill); Mr. Hutchinson's *Lectures on Clinical Surgery* (J. & A. Churchill); Mr. C. Heath's *Dictionary of Practical Surgery* (Smith, Elder, & Co.); Mr. C. Heath's *Course of Operative Surgery*, with coloured plates by M. Leveillé (second edition, J. & A. Churchill); Mr. Norton's edition of Bernard and Huette's *Text-book of Operative Surgery* (Baillière, Tindall, & Cox); Dr. Steven Smith's *Manual of the Principles and Practice of Operative Surgery* (Sampson Low & Co.); and Dr. J. Ashhurst's *International Encyclopædia of Surgery* (Macmillan & Co.). For the student of Military Surgery, Surgeon-General Longmore's work on *Gunshot Injuries* (Longmans & Co.), and Surgeon-Major Porter's *Surgeon's Pocket Book* (second edition, C. Griffin & Co.), are essential. A translation, by Mr. Clutton, of Professor Esmarch's *Surgeon's Handbook on the Treatment of Wounded in War* (Sampson Low & Co.) is also a valuable work.

MIDWIFERY; AND DISEASES OF WOMEN AND CHILDREN.

THE text-books of Obstetric Medicine which hold the first place in the present day are, Dr. W. S. Playfair's *Treatise on the Science and Practice of Midwifery* (fifth edition, Smith, Elder, & Co.); Drs. Robert and Fancourt Barnes's *System of Obstetric Medicine and Surgery* (Smith, Elder, & Co.); Dr. Leishman's *System of Midwifery* (third edition, J. Maclehose, Glasgow; and Macmillan & Co.). Every student should have one or the other of these. There are also Dr. W. T. Lusk's *Science and Art of Midwifery* (third edition, H. K. Lewis); and Cazeaux and Tarnier's *Obstetrics; the Theory and Practice*, translated by Dr. R. J. Hess (H. K. Lewis). For those who prefer smaller books, Dr. D. Lloyd Roberts's *Guide to the Practice of Midwifery* (third edition, J. & A. Churchill) will be useful; there are also Dr. Alfred Meadows's *Manual of Midwifery* (fourth edition, Renshaw); Dr. R. Barnes' *Synoptical Guide to the Study of Obstetrics* (Smith, Elder, & Co.); Milne's *Manual of Midwifery* (second edition, Livingstone, and Simpkin, Marshall, & Co.); and Dr. C. H. Carter's translation of Schröder's *Manual of Midwifery* (J. & A. Churchill). As works of illustrations, Dr. Martin's *Atlas of Obstetrics and Gynæcology*, edited by Dr. Fancourt Barnes (H. K. Lewis), Dr. H. Savage's *Female Pelvic Organs* (fifth edition, J. & A. Churchill), and Dr. Berry Hart's *Atlas of Female Pelvic Anatomy* (W. & A. K. Johnston), are to be recommended. Dr. J. G. Swayne's *Obstetric Aphorisms* (eighth edition, J. & A. Churchill) are very useful. Dr. Robert Barnes has issued a *Synoptical Guide to the Study of Obstetrics* (Smith, Elder, & Co.), which will be found valuable as an aid to study. Dr. Barnes's *Lectures on Obstetric Operations* (third edition, J. & A. Churchill) should be in the possession of every advanced student and general practitioner; as should also the *Clinical History of the Medical and Surgical Diseases of Women*, by the same author (second edition, J. & A. Churchill). Dr. West's *Lectures on the Diseases of Women* (fourth edition, with additions by Dr. Matthews Duncan, J. & A. Churchill); Dr. Graily Hewitt's *Diagnosis and Treatment of Diseases of Women* (fourth edition, Longmans & Co.); Dr. Matthews Duncan's *Clinical Lectures on the Diseases of Women* (third edition, J. & A. Churchill); the late Dr. F. Churchill's work on the *Diseases of Women* (sixth edition, Fannin & Co.); Dr. Edis's *Diseases of Women* (second edition, Smith, Elder, & Co.); the late Dr. J. Thorburn's *Practical Treatise on the Diseases of Women* (C. Griffin & Co.); Mr. Lawson Tait's *Diseases of Women* (Williams & Norgate); Dr. Emmet's *Principles and Practice of Gynæcology* (third edition, J. & A. Churchill); Dr. Gaillard Thomas's *Practical Treatise on the Diseases of Women* (fifth edition, Kimpton); Dr. Heywood Smith's *Practical Gynæcology* (J. & A. Churchill); Sir T. Spencer Wells's treatise on *Ovarian and Uterine Tumours* (J. & A. Churchill); Dr. Fordyce Barker's *Clinical Lectures on Puerperal Diseases* (J. & A. Churchill); Dr. Tilt's *Handbook of Uterine Therapeutics* (fourth edition, J. & A. Churchill); Dr. Macnaughton Jones's *Manual of Diseases of Women and Uterine Therapeutics* (Baillière, Tindall, & Cox); and Mr. Lawson Tait's *Diseases of the Ovaries*, are all valuable books. Other books which will be found useful are Dr. Galabin's *Student's Guide to Diseases of Women* (third edition, J. & A. Churchill); Hart & Barbour's *Manual of Gynæcology* (second edition, Johnston); Dr. Halliday Croom's *Minor Gynæcological Operations and Appliances* (second edition, Livingstone, Edinburgh; Simpkin, Marshall, & Co.); Dr. Courty's work on the *Diseases of the Uterus, Ovaries, and Fallopian Tubes*, translated by Dr. Agnes Maclaren (J. & A. Churchill); and Mr. Alban Doran's *Clinical and Pathological Observations on Tumours of the Ovary, Fallopian Tube, and Broad Ligament* (Smith, Elder, & Co.); Dr. Aker's *General and Differential Diagnosis of Ovarian Tumours.*

Among text-books on Diseases of Children, must be mentioned Dr. West's well-known *Lectures on the Diseases of Infancy and Childhood* (seventh edition, Longmans & Co.); Dr. Fleetwood Churchill's treatise on *The Diseases of Children* (third edition, Fannin & Co.); Dr. W. H. Day's *Manual on the Diseases of Children* (second edition, J. & A. Churchill); M. Guersant's *Surgical Diseases of Infants and Children*, translated by Dr. Dunglison (Smith, Elder, & Co.); Meigs and Pepper's *Practical Treatise on the Diseases of Children* (seventh edition, H. K. Lewis); Dr. Eustace Smith's *Practical Treatise on Diseases in Children* (J. & A. Churchill); Dr. J. L. Smith's *Treatise on the Diseases of Infancy and Childhood* (fifth edition, H. K. Lewis); Mr. E. Owen's *Surgical Diseases of Children* (Cassell & Co.); Dr. Goodhart's *Students' Guide to Diseases of Children* (J. & A. Churchill); Dr. Tanner and Dr. Meadows' *Practical Treatise on Diseases of Infancy and Childhood* (third edition, H. Renshaw); and Steiner's *Compendium of the Diseases of Children*, translated by Mr. Lawson Tait (J. & A. Churchill).

SPECIAL SUBJECTS.

THERE are several good text-books of the special departments which are taught in the schools.

For students of Psychological Medicine, the chief work is Bucknill and Tuke's *Manual of Psychological Medicine* (fourth edition, J. & A. Churchill). There are also Dr. Clouston's *Clinical Lectures on Mental Diseases* (J. & A. Churchill); Dr. E. C. Mann's *Manual of Psychological Medicine and Allied Nervous Diseases* (J. & A. Churchill); Dr. W. H. O.

Sankey's *Lectures on Mental Diseases* (second edition, H. K. Lewis); Dr. Blandford's *Lectures on Insanity and its Treatment* (third edition, Oliver & Boyd, and Simpkin, Marshall, & Co.); Dr. G. H. Savage's *Manual of Insanity and Allied Neuroses* (Cassell & Co.); and Dr. W. A. Hammond's *Treatise on Insanity* (H. K. Lewis).

For students of Ophthalmic Surgery, Mr. R. B. Carter's *Treatise on Diseases of the Eye* (Macmillan & Co.); Mr. Nettleship's *Student's Guide to Diseases of the Eye* (third edition, J. & A. Churchill); Mr. Macnamara's *Manual of Diseases of the Eye* (fourth edition, J. & A. Churchill); Mr. Wharton Jones's *Manual of Ophthalmic Medicine and Surgery* (third edition, J. & A. Churchill); Mr. George Lawson's *Diseases and Injuries of the Eye* (fifth edition, Renshaw); Dr. H. W. Williams's *Diagnosis and Treatment and Diseases of the Eye* (Sampson Low & Co.); Mr. B. T. Lowne's *Handbook of Ophthalmic Surgery* (Smith, Elder, & Co.); Mr. Juler's *Handbook of Ophthalmic Science and Practice* (Smith, Elder, & Co.); Mr. Hartridge's *Refraction of the Eye* (J. & A. Churchill); Mr. Higgens' *Hints on Ophthalmic Out-patient Practice* (J. & A. Churchill); and Mr. Swanzy's *Handbook of Diseases of the Eye and their Treatment* (H. K. Lewis), are books that will be useful. Dr. de Wecker's *Ocular Therapeutics*, translated by Dr. Litton Forbes (Smith, Elder, & Co.), and Dr. Wolfe's work on *Diseases and Injuries of the Eye* (J. & A. Churchill), may be consulted with advantage. A second edition of a book by Mr. E. A. Browne, for instructing students *How to Use the Ophthalmoscope*, is published by Trübner & Co. A *Manual and Atlas of Medical Ophthalmoscopy*, by Dr. Gowers (second edition, J. & A. Churchill), is a valuable work; Liebreich's *Atlas of Ophthalmoscopy*, edited by Mr. Swanzy (third edition), is also very useful.

In Aural Surgery, Sir W. B. Dalby's book on *Diseases and Injuries of the Ear* (third edition, J. & A. Churchill) is very good; there are also a book by Mr. G. P. Field on *Diseases of the Ear* (third edition, Renshaw); a *Manual of Diseases of the Ear*, by Dr. T. Barr (Maclehose, Glasgow; and Macmillan, London), and a *Guide to the Study of Ear-Disease*, by Dr. P. McBride (W. & A. K. Johnston), and a *Handbook of Diseases of the Ear*, by Dr. M. Pritchard (Lewis); while Dr. Burnett's work on *The Ear: its Anatomy, Physiology, and Diseases* (second edition, J. & A. Churchill), and Dr. St. John Roosa's *Practical Treatise on Diseases of the Ear* (sixth edition, H. K. Lewis) are valuable and elaborate works. Dr. Macnaughton Jones has brought out a good *Practical Treatise on Aural Surgery* (second edition, J. & A. Churchill), and also a well-executed *Atlas of the Diseases of the Membrana Tympani and Auricle* (J. & A. Churchill). Dr. E. Woakes is the author of an useful practical work on Postnasal Catarrh and Diseases of the Nose causing Deafness.

Among works on Diseases of the Nose and Throat we have Mr. Cresswell Baber's *Guide to the Examination of the Nose* (Lewis); Mr. A. E. Garrod's *Introduction to the Use of the Laryngoscope*; also several useful works on Diseases of the Throat by Dr. Morell Mackenzie.

For the use of students in Dermatology, Mr. Malcolm Morris's *Manual of Skin-Diseases* (Smith, Elder, & Co.), and Dr. L. D. Bulkley's *Manual of Diseases of the Skin* (J. & A. Churchill), are very reliable guides. Sir Erasmus Wilson's *Treatise on Diseases of the Skin*, and his *Lectures on Dermatology* (J. & A. Churchill) are well-known and valuable works. Dr. R. Liveing's *Handbook on the Diseases of the Skin* (third edition, Longmans & Co.) is well deserving of recommendation; so also are Dr. McCall Anderson's *Treatment of Diseases of the Skin* (Macmillan & Co.), and Fox's Epitome of Skin Diseases (third edition, Renshaw). For reference, there are Fox's *Photographic (Coloured) Illustrations of Skin-Diseases and of Cutaneous Syphilis* (J. & A. Churchill), and an *Atlas of Skin-Diseases* by Dr. Duhring, of Philadelphia (Lippincott & Co.).

For students of Dental Surgery, the following books published by Messrs. J. & A. Churchill: Tomes's *Manual of Dental Surgery* (second edition); Tomes's *Manual of Dental Anatomy* (second edition); Taft's *Practical Treatise on Operative Dentistry* (third edition); Sewill's *Student's Guide to Dental Anatomy and Surgery* (second edition, Churchill); Stocken's *Elements of Dental Materia Medica and Therapeutics* (third edition, J. & A. Churchill); and Coles's *Manual of Dental Mechanics* (second edition). There are also a *Manual of Dental Surgery and Pathology*, by Mr. A. Coleman (Smith, Elder, & Co.), and Barrett's *Dental Surgery for General Practitioners and Students of Medicine* (H. K. Lewis). Among larger works are Gorgas's *Dental Medicine* (J. & A. Churchill), and Harris's *Principles and Practice of Dentistry* (eleventh edition, edited by Dr. Gorgas, J. & A. Churchill).

FORENSIC MEDICINE AND HYGIENE.

As elementary works of convenient size, and containing valuable instruction, Dr. A. S. Taylor's *Manual of Medical Jurisprudence* (eleventh edition, J. & A. Churchill), Husband's *Forensic Medicine and Medical Police* (Livingstone), Guy and Ferrier's *Principles of Forensic Medicine* (Renshaw) and Dr. J. Abercrombie's *Student's Guide to Medical Jurisprudence* (J. & A. Churchill), are to be recommended. The more advanced student and the practitioner should consult Dr. Taylor's *Principles and Practice of Medical Jurisprudence* (third edition, by Dr. Stevenson, J. & A. Churchill); the *Handbook of Forensic Medicine and Toxicology*, by the late Dr. Bathurst Woodman and Dr. Tidy (J. & A. Churchill); Dr. Ogston's *Lectures on Medical Jurisprudence* (J. & A. Churchill); and the translation of Casper's *Forensic Medicine*, published by the New Sydenham Society. The last-named book describes the manner in which medico-legal investigations are carried out on the Continent. Dr. C. M. Tidy's work on *Legal Medicine* (Smith, Elder, & Co.) is a valuable book.

Under the head of Hygiene the principal books are Dr. Parkes's *Manual of Practical Hygiene*, edited by Prof. de Chaumont (sixth edition, J. & A. Churchill); Wilson's *Handbook of Hygiene and Sanitary Science* (fifth edition, J. & A. Churchill); Dr. A. H. Buck's *Treatise on Hygiene and Public Health* (Sampson Low & Co.); Prof. de Chaumont's *Lectures on State Medicine* (Smith, Elder, & Co.); Hart's *Manual of Public Health* (Smith, Elder, & Co.); and Hart's *Truth about Vaccination* (Smith, Elder, & Co.).

REVIEWS.

ARTICLE 5965.

Les Bactéries et leur Rôle dans l'Anatomie et l'Histologie Pathologiques. Par A. V. CORNIL, Professeur d'Anatomie Pathologique; et V. BABES, Professeur Extraordinaire d'Histologie Pathologique, Buda-Pesth. Second edition, revised and enlarged, with 348 figures (mostly coloured), and 4 coloured plates. Paris: Félix Alcan.

THIS is a bulky volume of 839 pages, being the second edition in little more than twelve months after the first. Fresh chapters are added on Pasteur's researches on rabies, on ptomaines, on experiments showing the reciprocal action of bacteria, in explanation of the results of protective inoculation, on parasitic diseases newly elucidated, *e.g.* 'foul brood' in bees (Cheshire and Cheyne), on a particular form of acne in the horse, &c. Prof. Babes may be considered as one of Koch's disciples; at any rate, he worked for several months in the Sanitary Institute in Berlin under Koch's direction. The latter has looked over the proofs of this work, which is a fairly complete exposition of our knowledge of pathogenic bacteria up to the present.

The book is divided into two parts. The first contains chapters on schizomycetes in general, ptomaines, instruments and methods, bacterial cultivations, classifications of bacteria with a systematic description, experiments on animals, the mutual struggle for existence amongst bacteria, attenuation of virus, tissue-lesions due to pathogenic bacteria, and lastly on 'experimental diseases,' viz., diseases produced in animals by inoculation of various kinds of bacteria. The second part is devoted to an account of all known infectious maladies proved to be or presumably due to the specific action of bacteria. The mere enumeration of these diseases is instructive. Amongst animals, we have as spontaneous diseases fowl-cholera, symptomatic charbon (Chabert's disease), cattle-plague, swine-plague, contagious acne in the horse, and diseases of silkworms and bees. The diseases occurring spontaneously in man and due to bacteria are given in the following order: various wound-diseases, including erysipelas and pyæmia, pneumonia (including lobar pneumonia, bronchopneumonia, contagious pneumonia of cattle, and some inflammations of serous membranes), diphtheria, blennorrhagia, typhoid fever, dysentery, yellow fever, acute atrophy of the liver, intermittent fever, cholera, charbon and malignant pustule, glanders, the eruptive fevers, dental caries, and some diseases supposed, but not yet proved, to be connected with bacteria. These latter embrace influenza, whooping-cough, endemic goître, pernicious anæmia, diabetes (!), and some skin-diseases. The following are given as chronic bacterial diseases: rhinoscleroma, tuberculosis, lepra, syphilis, and rabies. No mention is made of actinomycosis in this second part of the work. Insolation is considered to present features which render probable its causation by bacteria. Rheumatism has a large space to itself.

The classifications of bacteria prepared by Cohn, Van Tieghem, Zopf, and Rabenhorst are given in detail. Rabenhorst's classification, followed by Flügge, is not so scientifically correct as Zopf's, inasmuch as it does not take into account the polymorphism of bacteria, but is based merely on their shape. It is convenient, however, for use in the study of pathogenic bacteria, and is the one adopted, with some modification, by the authors, who make four groups of those organisms: viz., micrococci, bacteriaceæ, bacilli, and spirobacteria.

The greater part of the work is taken up by descriptions of the various diseases due to pathogenic bacteria. In each case a historical introduction is first given, followed by the different views of microscopists, especially when in direct opposition to each other. After thus discussing 'swine-plague,' the authors decide against Klein, Pasteur and Thuillier, Detmers, and others, and adopt the views of Loeffler, supported also by Koch and Schütz. Loeffler finds in this disease two distinct microbes (causing two different diseases with much the same symptoms), viz., bacilli very like those of septicæmia in the mouse, and minute ovoid microbes which kill much quicker.

The well-known precision and clearness which characterises French scientific works are well marked in this most interesting volume, teeming with the most discrepant views and observations of different authorities without the least confusion. Meanwhile, there are omissions in the work.

Friedländer's capsulated micrococci are accepted as the true cause of pneumonia, while Klein's experiments and arguments against this view are not mentioned. They are to be found in the last report of the medical officer to the Local Government Board. Koch's comma-bacillus is regarded as the undoubted cause of Asiatic cholera, and it is only natural that Dr. Babes should think so. But there are many eminent bacteriologists and others who consider this question still far from settled. Regarding the spreading of tuberculosis through the milk-supply from tuberculous cases, the authors conclude that milk should always be boiled before using, unless we are sure of its source being a healthy one. Phthisis is here regarded as a purely 'bacterial malady,' but then the work is written from a bacterial point of view. Pasteur's inoculations against rabies are fully detailed; and the account is brought down to the death of three of the Russians last spring. Too much praise cannot be bestowed upon the delicacy of the colouring of the illustrations which occur on almost every other page. An excellent index completes this valuable work, of which, as a whole, the authors may be proud.

E. J. EDWARDES, M.D.

ARTICLE 5966.

Recent Essays by various Authors on Bacteria in relation to Disease. Selected and Edited by W. WATSON CHEYNE, M.B., F.R.C.S., New Sydenham Society, Vol. cxv. 1886.

THIS is one of the most interesting volumes ever published for the New Sydenham Society. A large number of the best papers relating to pathogenic micro-organisms, which have been written by (chiefly German) investigators during the last few years, are here reproduced for the benefit of the English reader, for the most part as literal translations, the rest being abstracts. All of these essays are of the highest interest, and are arranged in the following order.

1, On the Investigation of Pathogenic Organisms, by Dr. R. Koch; 2, the Etiology of Tuberculosis, by the same; 3, on the Etiology of Enteric Fever, by

Dr. Gaffky; 4, on Erysipelas, by Dr. Fehleisen; 5, Recent Papers on the Bacilli of Leprosy, one by Dr. Neisser, the other by MM. Cornil et Suchard; 6, the Micrococci of Pneumonia, by Dr. C. Friedländer; 7, the Etiology of Cholera, by Dr. R. Koch (two papers read at the first and second Cholera Conferences in Berlin); 8, the Bacillus of Glanders, by Dr. Löffler and Professor Schütz; 9, two papers relating to Suppuration and Septic Diseases, by Drs. Rosenbach and Garrè respectively; 10, on Diphtheria in Man, by Dr. Loeffler (an abstract); 11, on Actinomycosis in Man, by Dr. Israel (an abstract); 12, several papers on Disinfection, by various authors; and lastly, 13, five papers on Attenuation of Virus and Protective Vaccination (including M. Pasteur's researches). This last series comprises abstracts by Dr. Dawson Williams from a large number of papers, and next in interest to the one on Rabies comes Koch's Criticism on Pasteur's Anthrax Inoculations.

Eight carefully coloured plates are inserted at the end of the volume, but the reproductions of Koch's micro-photographs are rather puzzling, even with the aid of the text.

In regard to the papers on Cholera, it would have been interesting to have had an abstract of some of the criticisms which the second paper encountered at the Cholera Conference, especially at the hands of Pettenkofer. On page 641 the heading 'Bacterial Suicide' occurs; this term is not well chosen. On page 509 some mystical figures occur in a table, together with some signs. The explanation of these figures and signs is to be found on pp. 498-99. A foot-note to the table is wanted.

Perhaps the most attractive paper in the collection is Koch's long article on the Etiology of Tuberculosis, which occupies 135 pages. The translations are faithful to the original, so far as compared by the writer, and are written in good English. This volume should cause an increase in the number of members of the New Sydenham Society, and it will doubtless be in large request.

The editor has written an interesting preface, in which a large amount of information is compressed into two or three pages, concerning some diseases and bacteria, for which there was no room in the text. Brieger's 'ptomaines' are here mentioned; and the idea is boldly mooted that the phenomena of infective diseases are due, not to the general invasion of the system by bacteria, but to chemical poisons, the so-called ptomaines, elaborated by their agency. This is a far-reaching speculation. This view already widely prevails on the Continent, and may be regarded as the latest development of bacteriology. But it must be remembered that as yet it is only a speculation; a premature application of the views of bacteriologists to clinical medicine will only retard the progress of bacteriology. As an example, it was premature in Emmerich to assert a causal connection between certain peculiar micrococci found in the soil beneath the floor of a hospital ward, and an epidemic of pneumonia then existing in the same place. E. J. Edwardes, M.D.

Ninth International Medical Congress.—The local committee of arrangements has completed its organisation. Dr. Nathan S. Davis, of Chicago, is to be president of the Association. The President of the United States, the Secretary of State, and the presiding officers of the Senate and House of Representatives have authorised the use of their names as patrons of the Congress.

Article 5967.

A Treatise on Amputations of the Extremities and their Complications. By B. A. Watson, A.M., M.D., Surgeon to the Jersey City Charity Hospital, N.J. Philadelphia: P. Blakiston, Son, & Co. 1885.

This work is intended to embrace a very full consideration of all the principal questions pertaining to the performance of amputations, and to their after-treatment. Dr. Watson has taken much trouble and shown much industry in his endeavour to effect his object. This work, however, we venture to suggest, would have been much more acceptable if it had contained less of European teaching, and more of the results of the experience of surgeons on his own side of the Atlantic. Most surgeons, both here and in the States, are, we imagine, fairly well acquainted with the views of Sir J. Paget and Sir J. Lister, and would rather expect in a large work from one with Dr. Watson's ability and experience fresh views and extended knowledge as to modern indications of amputation, and as to its results in America under modern conditions of surgical treatment. As a compilation, however, this work is certainly very satisfactory. Most of the chapters are full and lucid, and well illustrated. The portions of the work dealing with the preparation of the patient, the various special amputations, and the treatment of amputation wounds, have been well done and contain much good and useful information. These subjects, however, which should occupy the main and prominent sections of any treatise on amputations, seem in this somewhat overgrown book to be eclipsed by chapters on subjects of secondary importance. About one-fifth of the book is occupied by a chapter on the Selection and Application of Artificial Limbs, and rather more than 250 out of 750 pages are devoted to the subject of pyæmia and other complications of wounds, dealt with not in their special application to amputations, but in their general bearing as described and discussed in most good works on General Surgery.

NOTES ON BOOKS.

Article 5968.

Treatment of White Swelling of the Knee. By A. B. Judson, M.D. Reprinted from the *New York Medical Journal*, June 5, 1886.

The author of this essay explains the mechanical principles upon which a splint for fixation should be applied to the knee-joint. It should be adapted to the back of the limb and attached to it by four bands, one at each extremity, and one just above and another below the joint. In the splint, a narrow piece of steel scantily padded displaces the soft parts and fluids, and closely approaches the bone; and yet, if carefully applied, it will not interfere with the comfort and integrity of the skin. On the other hand, broad surfaces, such as are found in the interior of a plaster splint, are prevented by the interposition of the soft parts from approaching the bone and producing the desired fixation of the joint. Where the bands attach the splint to the limb, there should be cross pieces of metal, which should be capable of being moved in position by the surgeon, and the whole splint should be bendable by means of wrenches. It is most important to remember that we cannot hope to arrest the inflammation without fixation. The use of the joint involving support of the body-weight, and the prevention of undue concussion, it becomes necessary to prevent its action in these respects, and suspension of the limb in walking is recommended with this object.

Noble Smith.

Article 5969.

Therapeutics of Diseases of Joints. By A. B. Judson, M.D., New York. Reprinted from *New York Medical Record*, May 1, 1886.

In this essay the author urges the following three points. 1. It is not, as a rule, sufficiently recognised that articular osteitis is, in its nature, an affection in which absolute restoration to perfect symmetry and complete function is very decidedly the exception and not the rule. 2. The mistake is often made of dealing with such cases as if the reflex muscular action were the chief cause of evil. With this idea, mechanical apparatus is applied with a view to counteracting such action instead of simply attempting fixation. 3. The dread of causing ankylosis by rigid fixation is without foundation.

Noble Smith.

Article 5970.

Transactions of the Obstetrical Society of London, Vol. xxviii., Part III., for May, June, and July.

This part contains a paper by Dr. J. Matthews Duncan on 'Elasticity, Retraction, and Polarity of the Uterus,' and one by Dr. Amand Routh on a case of serous perimetritis. There is an interesting description of the removal by abdominal section of a fœtus and placenta in a case of extra-uterine gestation by Dr. G. Ernest Herman, and some curious details of four cases of spurious hermaphroditism in one family by Dr. John Phillips. Mr. Alban Doran contributes the description of several specimens of malformation of the Fallopian tubes, discovered in the examination of over one thousand uterine appendages since 1878; and Dr. Champneys a series of observations bearing on the uterine souffle.

Article 5971.

Memorabilia. London: Fletcher, Fletcher, & Stevenson. 1886.

Messrs. Fletcher, Fletcher, & Stevenson, of the North London Chemical Works, Holloway, N., have adopted a very ingenious plan of bringing their Syrups of the Hydrobromates to the notice of the profession. Under the title *Memorabilia*, they have published a little book containing, in addition to blank pages for notes, a series of useful little 'tips,' which have been digested and reduced to the briefest possible form. These hints are given in no particular order or arrangement—possibly in the order of their discovery—but they are nearly all worth a passing glance.

Article 5972.

New Catalogues.

Mr. J. B. Medland, of 12 Borough, London Bridge, S.E., who has paid much attention to Microscopic Mounting Cabinets and materials, has recently brought out an illustrated catalogue of these appliances, which the student will find useful in guiding him in his purchases. It is very complete, and gives a price list of instruments, mounting materials, apparatus, &c.

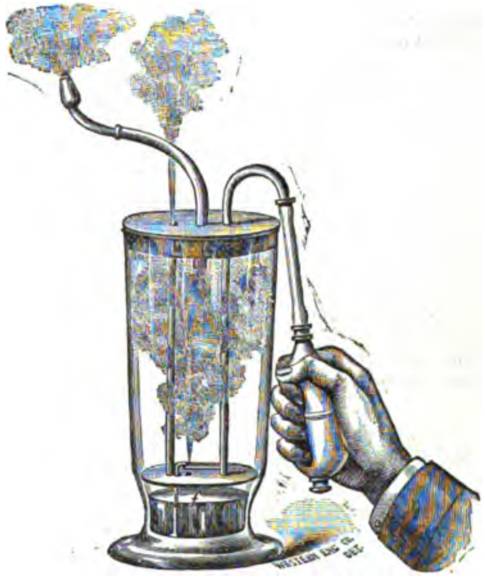
NEW INVENTIONS.

SEMPLE'S ATOMISING INHALER.

This apparatus is an excellent example of an *atomiser*, properly so called. It differs essentially from the common 'spray' apparatus, in producing a far more finely divided cloud of the medicated solution, and is thus eminently suited for purposes of inhalation. This solution may contain cucaine, or the mixture of terebene, liquid vaseline, oil of cubebs, and oil of sandal-wood, or the oil of eucalyptus, or in fact any medicinal substance which it is desired to use as an inhalation. As the drawing shows, the atomised solution is collected in a glass reservoir, from which, by means of the mouthpiece or nozzle, it can be inhaled by the patient through the mouth or nose as required.

The inhaler can easily be attached to the compressed air apparatus, and a continuous vapour can thus be produced without the aid of the rubber bulb allowing the patient to concentrate his attention on the proper carrying out of the inhalation.

The apparatus secures great economy of the material used, since the vapour which remains in the reservoir will condense on the sides, and be available for use on a subsequent occasion. There is supplied by Messrs. Parke, Davis, & Co., Detroit, Michigan, U.S.A., who are the sole agents, under the name of Inhalant No. 1, an inert liquid petroleum product at a very moderate price.

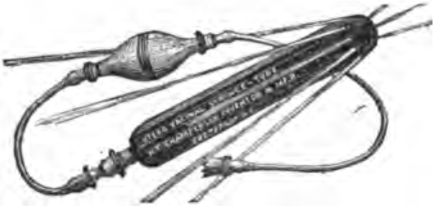


These may be used with drugs which are soluble in or miscible with substances of an oily nature, and, if aqueous solutions are employed, it is desirable to add one-third of their volume of glycerine in order to secure the proper specific gravity. Too thick a solution cannot be vaporised, and, if too liquid, the vapour produced condenses too rapidly for use.

Messrs. Parke, Davis, & Co. suggest a number of formulæ for inhalation by means of Semple's Atomising Inhaler, the explanatory pamphlet containing which may be obtained, together with the apparatus, from their agents for Great Britain, Messrs. Burgoyne & Co., 16 Coleman Street, E.C.

A NEW UTERO-VAGINAL SYRINGE (CHAMBERLIN'S).

A very important point in the treatment of utero-vaginal affections consists in securing the removal, by means of systematic irrigation, of the irritating products of unhealthy conditions. Most of the apparatus in common use fulfil this object only to a limited extent, and it is claimed for Chamberlin's syringe (*see* figure) that these imperfections, which minimise the good results derived from the other forms, have been effectually obviated.



The vaginal tube is six inches in length and one inch in diameter, and its surface is divided into two longitudinal grooves, each one-eighth of an inch deep, terminating at the base in orifices for the return stream. At the dome are orifices for direct and diverging streams.

From the size and shape of the nozzle, the uterus, if prolapsed, is restored to its normal position, and at the same time the folds of the vaginal mucous membrane are gently distended during the injection, allowing any tenacious or adherent mucus to be washed away, to escape with the return current along the grooves and out at the base. By these means the mucous surface is effectually cleansed without difficulty or inconvenience of any kind. When desired, the liquid injected may be medicated, and the good effects of a topical application added to those attributable to the irrigation.

Messrs. Parke, Davis, & Co., Detroit, Michigan, U.S.A., are the agents for the Chamberlin Syringe, and have arranged for their sale in Great Britain through their London agents, Messrs. Burgoyne & Co., 16 Coleman Street, E.C.

MEDLAND'S IMPROVED SUBJECT CABINET.

This cabinet, of which an illustration is appended, was first made by Mr. Medland, of No. 12 Borough, S.E., for Mr. H. E. Durham, of Cambridge, the object in view being to produce a case for microscopic subjects in a more portable form than any cabinet made at the present time. The case, which is of polished pine, measures only 10¾ by 4½ inches, and contains sixteen trays, holding nine objects each. Thus, in a space but a trifle larger than the cases now made to hold six dozen, we have one that will contain a gross—an evident gain to the microscopist. The front, instead of being made to fall down, folds over with the top, and so forms a little table on which to place the subjects when in use. The portability and low price of this useful contrivance will be appreciated by the student, and will no doubt ensure the commercial success it merits.

HIDES' IMPROVED PATENT MOULDED MILITARY AND GENERAL AMBULANCE.

This is a full-sized model of the body, into which the patient is readily placed. It is adapted to every injury. Its novelty of construction allows the patient to be carried in perfect repose, without any friction of injured parts. For institutions, railways, hospitals, police, coal-mines, factories, and general purposes, it is very useful, and especially for the comfort of travelling invalids.

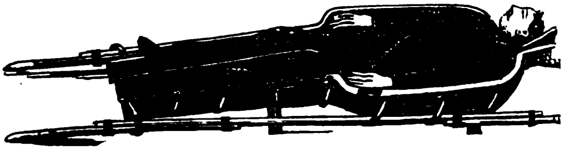


Fig. 1. Stretcher detached from Carriage, ready to be carried by bearer or placed on wheels. Weight 16 lbs.

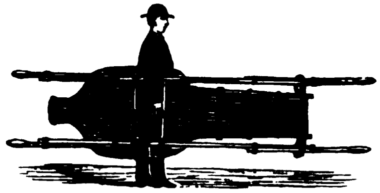


Fig 2. Stretcher, carried by bearer when empty. Weight 16 lbs.

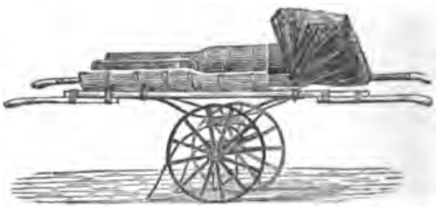


Fig. 3. Patient can be conveyed, in either Hospital or Field, without any jarring movement. Weight complete 100 lbs.

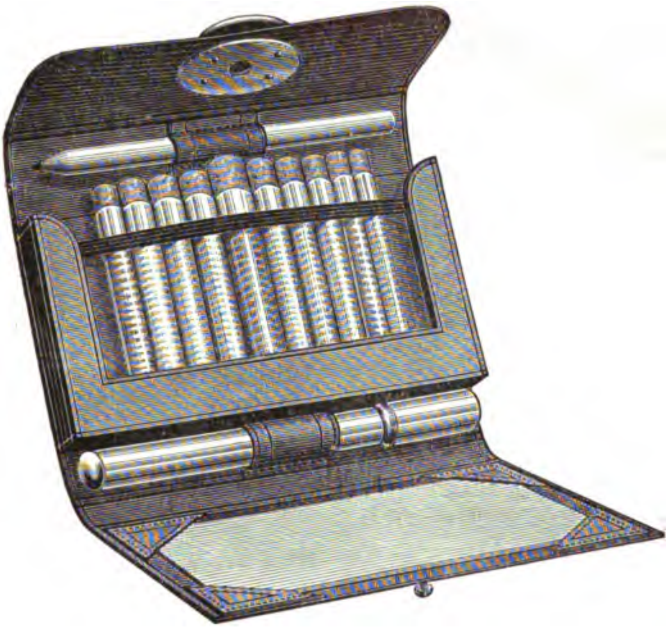
This ambulance is supported on springs, whereby the suffering caused by the jerking and stumbling in general ambulances is entirely obviated, thus preventing simple from being converted into compound fractures.

It is said to be by far the lightest ambulance in use, as any number of stretchers may be used with the same under carriage. It is made of cane, and very readily cleansed from blood or dirt by washing merely with cold water and brush. The increased advantage of the apparatus is a sunk axle through the carriage, whereby the patient can be carried. This ambulance is patented in England, France, Germany, and Belgium.

These ambulances are on show at the establishment of W. Monk & Co., 103 Great Russell Street, Bloomsbury, where they can be seen by appointment, and prices obtained.

NEW HYPODERMIC POCKET-CASE (No. 13), WITH SOLID SILVER SYRINGE.

The new Hypodermic Pocket-case, designed and manufactured by Messrs. Burroughs, Wellcome, & Co., is remarkable for neatness and ingenuity. The case only measures $3\frac{1}{4} \times 2\frac{1}{2}$ inches, and contains twelve tubes of tabloids of different drugs, in addition to the syringe, which is of silver. The latter is certainly the smallest we have seen, and is contained in an outer silver case, which protects it and prevents the piston packing from becoming dry, an accident which renders the ordinary syringe so unreliable an instrument on an emergency. The cap of this outer case serves as a miniature mortar, in which the tabloids are crushed and dissolved, so that within this diminutive case every useful adjunct is to be found ready for use. As the tabloids are, moreover, well adapted for administration by the mouth, the case constitutes a portable drug-chest, which will be found of the greatest convenience to country practitioners and others, especially in hot climates, since it can be carried in the waistcoat pocket, where it does not occupy more space than an ordinary card case. Great credit is due to this enterprising firm for their ingenuity in ministering to the comfort and convenience of practitioners by the introduction of these admirable contrivances.



NEW WATERPROOF MATERIAL.

Mr. Hedgcock, the surgical instrument and appliance maker, of 138 Grosvenor Park, Camberwell, has introduced a new waterproof material, suitable for the use of mothers, nurses, and infants, that is very superior over the ordinary kind sold. It is as soft and pliable as any ordinary cloth, perfectly free from the objectionable smell attendant upon most waterproofs; and, although waterproof, is slightly absorbent, that is to say, liquid will not run off it in the same manner that it would from the old kind. Thus the secretions from the mouth of an infant wearing one of the new waterproof bibs would not immediately run down on to its clothes, but would be partially absorbed, though the other side of the bib would be perfectly dry at the same time. This waterproof cloth completely protects the chest, adds to the comfort of the child, and minimises the risk of colds. Articles made of the new waterproof are easily washed with soap in cold water, and will last for months without becoming hard, being spread with pure Para-rubber. Mr. Hedgcock's invention will be appreciated in the nursery, where it is likely to be largely employed.

NEW PREPARATIONS.

DUNCAN, FLOCKHART, & Co.'s CASCARA CAPSULES.

Messrs. Duncan, Flockhart, & Co. have forwarded us a sample of their Cascara Capsules, each of which is equal to half a teaspoonful of Fluid Extract of Cascara Sagrada. A single capsule thus represents one average dose of this now fashionable remedy for constipation, and is of course free from the somewhat objectionable taste which is the only drawback to its use. These capsules are soft to the touch, and have not that harshness of surface which is frequently met with in them, and which adds so materially to the difficulty of swallowing them. Cascara is more particularly a ladies' remedy, and will, in this new and elegant form, doubtless find favour in their sight.

PARKE, DAVIS, & Co.'s GELATINE CAPSULES.

We have received from Messrs. Burgoyne & Co. some samples of the empty gelatine capsules manufactured by Messrs. Parke, Davis, & Co., of Detroit (Mich.), for the purpose of facilitating the administration of certain powders and drugs, which either have a disagreeable taste, or are simply difficult to take. In either case, these little contrivances are not only ingenious but extremely useful. They are made of various sizes, and will doubtless be welcome to the medical attendants of more fastidious patients.

BISHOP'S GRANULAR EFFERVESCENT HYDROBROMATE OF CAFFEINE.

The specimen of Bishop's Granular Effervescent Hydrobromate of Caffeine forwarded to us by Messrs. Burroughs, Wellcome, & Co., is one of those elegant preparations which make medicine taking almost a luxury. Most practitioners are probably by this time familiar with the analogous preparation of citrate of caffeine, and the hydrobromate will doubtless be found equally serviceable in certain classes of cases. The most fastidious patient could not conscientiously object to medicine in this form.

DIETETIC NOVELTIES.

SCOTCH WHISKIES.

The Edinburgh Exhibition has naturally been the means of bringing together a large number of Scotch whiskies, and our attention has been called to some of them as being sound and reliable stimulants in cases where the medical attendant considers it necessary to prescribe alcohol. Our analyst's report of the whisky is :—This is a good whisky, well blended, of fair alcoholic strength, and free from all fusel-oil compounds, often present in whiskies that have not been properly aged.

Total solid matter	1·05
Absolute alcohol	43·2
Percentage of proof spirit	89·0

MISCELLANY.

American Otological Society.—At the nineteenth annual meeting of this Association, held at New London, Connecticut, July 20, 1886, the following officers were elected for the ensuing year: President, J. S. Prout, M.D., of Brooklyn, New York; Vice-President, Samuel Sexton, M.D., of New York; Secretary and Treasurer, J. J. B. Vermyne, M.D., of New Bedford, Massachusetts; Committee on Membership, Gorham Bacon, M.D., W. S. Little, M.D., and E. W. Bartlett, M.D.

American Ophthalmological Society. — The twenty-second annual meeting was held at New London, Connecticut, July 21 and 22, 1886. The following were elected for the ensuing year: President, W. F. Norris, M.D., of Philadelphia; Vice-President, H. Derby, M.D., of Boston; Secretary and Treasurer, O. F. Wadsworth, M.D., of Boston. A number of interesting papers were read at these meetings. The next place of meeting was left to the decision of the Council.

American Neurological Association.—At the twelfth annual session, held at Long Branch, July 21 to 23 inclusive, the following officers were chosen for the year: President, Landon C. Gray, M.D., of Brooklyn, New York; Vice-President, John Van Bibber, M.D., of Baltimore; Secretary and Treasurer, Graeme M. Hammond, M.D., of New York; Counsellors, B. Sachs, M.D., of New York; Wharton Sinkler, M.D., of Philadelphia.

American Public Health Association.—The fourteenth annual meeting of the American Public Health Association will be held at Toronto, on Oct. 5 to 8, 1886. The executive committee have selected the following topics for consideration at the meeting: 1. 'The disposal of the refuse matters of cities and towns.' 2. 'The condition of stored water-supplies, and their relation to the public health.' 3. 'The best methods and the apparatus necessary for the teaching of hygiene in the public schools, as well as the means for securing uniformity in such instruction.' 4. 'Recent sanitary experiences in connection with the exclusion and suppression of epidemic disease.' 5. 'The sanitary conditions and necessities of school-houses and school-life.' 6. 'The preventable causes of disease, injury, and death in American manufactories and workshops, and the best means and appliances for preventing and avoiding them.' 7. 'Plans for dwelling-houses.'

We have received the June number of the Sei I Kwai medical journal published at Tôkyô (Japan) by the Society for the Advancement of Medical Science in Japan. It consists of two parts, one in English and one in Japanese, and the present number contains, in addition to the reports of clinical cases and society transactions, the translation of a report of the Sanitary Bureau on Cholera Epidemics in Japan, accompanying which is a map showing the districts most afflicted. The journal appears to be very well edited, and contains a fair share of interesting material.

A recent operation performed by M. Polaillon has furnished further proof of the great services rendered to surgery by M. Gustave Trouvé's electrical œsophageal 'sonde.' A professional sword and sabre swallower had, by mistake, swallowed a fork. It was only by using M. Trouvé's instrument that the exact position of the fork in the stomach was detected; other instruments had been used without any result. When M. Polaillon had determined the position occupied by the fork in the man's stomach, he decided on operating according to M. Labbé's method. The stomach was incised in the region on a level with the ninth rib; the fork, measuring 21 centimètres, was then withdrawn and has since been shown at the Académie de Médecine. M. Polaillon stated that there are nineteen persons who have swallowed forks. The London agent for M. Trouvé is M. E. H. Cadiot, 3 East India Avenue, E.C.

With reference to the recent catastrophe by which the King of Bavaria and his physician lost their lives, *Science* notes that Dr. Gudden is a sad loss to science, for he was one of the most noted authorities in the sphere of nervous and mental diseases. He has also been at the head of a laboratory in which investigations of the fine anatomy of the brain, spinal cord, and sense organs have been carried on. He has given his name to a manner of studying the connections of the nervous system which is as ingenious as it has proved fruitful of results. His method consists in extirpating a sense-organ or other part of an animal when young, and then allowing the animal to grow up. At death the animal is examined, and the fibres which have failed to develop will thus be marked out as the paths of connection between the extirpated sense-organ and the brain-centre. For many years he had been at work on the problem as to the mode of connection between the retina and the brain, but his results are not yet before the public.

Sanitary Furniture.—In the *Lancet*, May 1886, p. 892, an article alludes to Dr. Jaeger's idea of hygienic furniture. This author states that dead wood, as well as linen, cotton, and other vegetable matters, retains its power of absorbing noxious animal exhalations. These the living plant digests, but the dead fibre or wood only harbours such poisonous gases for a time, and then throws them off again when there is a change of temperature. Sanitary furniture must therefore be rendered non-absorbent by carefully polishing or painting all the woodwork, both inside and outside; and the same rule applies to the flooring, wainscoting, &c., of all habitations. To render all furniture capable of being called sanitary, it is necessary to have every wall painted or the paper varnished, and the upholstery, bedding, carpets, rugs, and curtains should consist of animal fibre sanitarily dyed.

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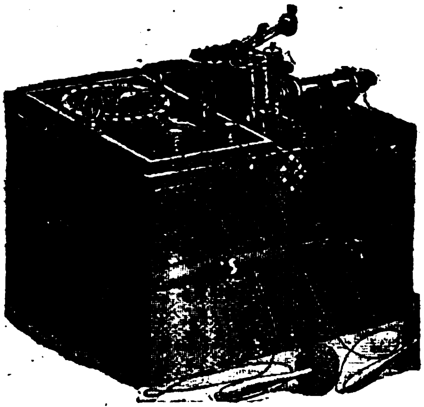

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(SOLE INVENTOR)

Has achieved world-wide fame in the following treatments.

1. In most varieties of dyspepsia.
2. In all forms of debility.
3. As a solvent for muco-purulent matter.
4. Injected as a solvent for coagulated blood in the bladder.
5. As a solvent for diphtheritic patches and membranes, using a hot acidulated solution not above 130° Fahr. as a spray or with a throat mop.
6. Mixed with food for rectal alimentation.
7. Injected into cavities through an aspirator needle for the solution and removal of diseased accumulations.
8. For predigestion of milk, to each pint of warm milk add a few grains of the Pepsin previously dissolved in a little lemon juice. Decidedly superior and more economical than pancreatin as a peptonizer.

We also recommend the Lentiforms or Tablets, 2½ grains each, of above Pepsin. No additions.

Physicians unacquainted with the merits of this very popular Pepsin will receive an ounce bottle post-paid on receipt of Postal Order for 2*s.* 6*d.*

Pure concentrated Beef Peptone in scales 2*s.* 6*d.* per ounce.

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OR

ANODYNE TINCTURE,

Prepared exclusively from Opium.

THE SAFEST AND BEST PREPARATION OF OPIUM.

Produces neither Headache, Sickness, nor Constipation.

Messrs. FERRIS & COMPY. beg to direct the attention of the Medical Profession to the following important and unsolicited Testimonial to the value of NEPENTHE, which they have received from GEO. C. SEARLE, Esq., of Brixham, Devon, M.R.C.S., L.S.A., Medical Officer of Health, Brixham, &c.

'Brixham, October 1881.

'GENTLEMEN,—I should like to bring before your notice the very great benefit two patients of mine have derived, and are still deriving, from the continued use of NEPENTHE The first case is that of an old lady nearly 80, who has been suffering now for many years from an ulcerated leg, accompanied at night with very great pain, so much so as to prevent her sleeping. About eight years ago I persuaded her *to try* a dose of NEPENTHE at bed-time, and she has continued taking a dose regularly *every night ever since*, without any of the bad symptoms generally induced by the continued use of an opiate, but on the contrary is now, although so aged, in better health than she was eight years ago. The other case is that of a cancer of the face and neck (a very bad case): here there was an intensity of pain which nothing seemed to relieve, although opium, morphia, chloral, and every other sedative which could be thought of, had been tried. I at last tried the NEPENTHE, and the result has been an entire cessation of the pain, which has not yet returned, although he has had the medicine now for some weeks. I may mention that in the first case it has not been necessary to increase the dose, and in the latter not to any great extent, which I consider another great advantage NEPENTHE possesses over other preparations of opium. 'GEO. C. SEARLE.'

On the 4th February, 1886, Mr. SEARLE writes:—'You will be glad to hear that my lady patient [referred to above] is still alive and still takes her nightly dose. At the present time she is better than she has been for two years. If she lives till next June she will have taken a dose of NEPENTHE every night for *thirteen years*.'

From 'THE LANCET,' December 18th, 1869.

'NEPENTHE, OR ANODYNE TINCTURE, prepared by Messrs. FERRIS & Co., Bristol.—This preparation really consists, as stated, solely of opium, resembling somewhat the liquid extract of the British Pharmacopœia. It is claimed for it that it does not produce headache, stupor, giddiness, depression of spirits, diminution of nervous energy, prostration of strength, nor constipation; it is doubtless less stimulating than those preparations of opium made with the solid and crude drug; and a further commendation of NEPENTHE is its uniformity of strength.'

NEPENTHE may be used with perfect safety in every case where an opiate is indicated, and from the peculiar process by which it is prepared, it is deprived of all constituents which render the Tinctura Opii, and other forms of Opium, in very numerous instances wholly inadmissible. It is also of uniform strength, and in this respect possesses high advantages.

NEPENTHE does not produce headache, stupor, giddiness, depression of spirits, diminution of nervous energy, prostration of strength, nor constipation, but induces natural and refreshing sleep.

DOSE—THE SAME AS THAT OF TINCTURA OPII. PRICE 8*s.* PER LB.
GLYCEROLE OF NEPENTHE FOR SUBCUTANEOUS INJECTION. PRICE, 4*s.* PER OZ.

⁂ In the 'Analysis of 10,000 Medical Prescriptions' recently published by the *Chemist and Druggist*, 'NEPENTHE' occurred 76 times—only two other proprietary articles, Vaseline and Chlorodyne, having a higher percentage.

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WHOLESALE AND EXPORT DRUGGISTS, BRISTOL,

And through all the leading Wholesale and Retail Chemists in Great Britain and the Colonies.

NOTICE.—Messrs. FERRIS & CO. are the ONLY manufacturers of Nepenthe, and medical gentlemen are especially cautioned against using any preparation which does not bear their name and label.

Nepenthe is Registered under the Trade Marks Act, and protected by a facsimile of our signature pasted over each cork, and is sent out in bottles, bearing a label in white letters upon a green ground.

N.B.—Two pounds of Nepenthe, or one pound of Nepenthe and three pounds of Ferris & Co.'s Syrup of Chloral, will be sent, carriage paid, to any Railway Station on receipt of P.O.O. for Sixteen Shillings.

Printed by Spottiswoode & Co., New-street Square, and Published by Smith, Elder, & Co., 15 Waterloo Place, London.

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The London
Medical Record

A MONTHLY REVIEW OF THE

Progress of the Medical Sciences and of Subjects relating to Public Health

EDITED BY ERNEST HART

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ITS ACTION IS PROMPT, stimulating the appetite and the digestion it promotes assimilation, and enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; hence it IS OF GREAT VALUE IN THE TREATMENT OF MENTAL AND NERVOUS AFFECTIONS. From its exerting a double tonic effect, and influencing a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE.—CAUTION.—The success of Fellows' Hypophosphites has prompted certain persons to utter substitutes. Mr. Fellows, having examined several of these, finds no two samples identical, and all differ from the veritable, in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnine in solution, and in the medicinal effects.

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That he is the sole inventor of the formula of Fellows' Compound Syrup of Hypophosphites, which was discovered and prepared for the first time for his own use in 1865, when out of health;

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That the formula of the Syrup has never since been changed.

Mr. Fellows therefore refers to the printed form surrounding every bottle, where the letters may be found in detail.

As cheap substitutes are frequently dispensed instead of the genuine, Mr. Fellows can only advise that his Syrup should be prescribed in the original bottles, 4s. or 7s., where the distinguishing marks will prevent imposition.

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OCTOBER 15, 1886.

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ARTICLE 5973.

ECKERT ON CLINICAL EXAMINATION OF URINE IN CHILDREN'S DISEASES.

IN a preliminary note in the *Vratch*, Nos. 44 and 45, 1885, p. 730, Dr. Alexandra J. Eckert, house-physician to the Elizavetinskaia Infirmary for Children, in St. Petersburg, states that she has made 1,500 analyses of urine in 104 children, in order to study its changes under the influence of various affections attacking the child's organism, and to determine quantitatively the albuminoid losses sustained by the system in febrile albuminuria. The albumen in the urine was estimated after a method based on Heller's test, and introduced simultaneously by Professor Roberts, of Manchester, and Dr. J. J. Stolnikoff, of St. Petersburg (*see* Professor V. A. Manasseïn's *Sbornik Rabot*, Part II., 1877). The author divides her cases into four groups.

The first group consists of the following cases—*a. Typhus fever* (seven cases in children, aged from 6 to 15).—During the febrile period the urine was scanty, highly coloured, and of a high specific gravity; in five of seven cases albuminuria, lasting from four to twenty-one days, was present, the quantity of albumen varying from 0·024 to 0·502 per cent. It rapidly disappeared with the advent of pyrexia. *b. Enteric fever* (nineteen cases in patients, aged from 3 to 14).—In fourteen of them albumen was found during the febrile period for four to fourteen days, its quantity varying from mere traces to 0·7 per cent. *c. Relapsing fever* (two cases, aged 8 and 11).—No albuminuria was observed. *d. Intermittent fever* (three cases, aged 9 to 12).—No albuminuria was found.

A second group included—*a. Croupous pneumonia* in twelve patients, aged from 8 months to 12 years, with scanty, highly coloured, and very dense urine during the febrile stage. In ten of them from a mere trace to 0·104 per cent. of albumen was found at the time of high temperature, for four to seven days. *b. Catarrhal pneumonia*, in two patients aged 7 and 8.—In the former, who had fever of an intermittent type and ultimately recovered, no albumen was found in his scanty urine of a high specific gravity. In the other, 0·064 per cent. of albumen appeared shortly before his death. *c. Pulmonary tuberculosis.*—In all four fatal cases (in children aged 2½ to 10) albuminuria was present, varying from traces to 0·84 per cent. *d. Chronic pneumonia* (one case) and *exudative pleurisy* (one) without albuminuria.

A third group is composed of—(*a*) *Measles*, two cases, aged 3 and 10, with albuminuria of one to three days' duration; the amount of albumen varied from 0·012 to 0·067 per cent. (*b*) *Diphtheria*, faucial; two cases, aged 6 and 10, with albuminuria of one to five days' duration, varying from 0·024 to 0·144 per cent. (*c*) *Scarlet fever*, six cases, aged 3½ to 8. In five, albuminuria was observed, and that in two forms—as a *febrile* one, during breaking out of the rash, of one to seven days' duration, and with 0·012 to 0·044 per cent. of albuminuria; and as a *nephritic* one in the third week of the disease, of a monthly or longer duration, with 0·012 to 0·244 per cent. of albumen. (*d*) *Parenchymatous nephritis*, eight cases. In seven, albuminuria of one to six weeks' duration was found, with 0·024 to 0·164 per cent. of albumen.

The fourth group consists of—(*a*) a case of *catarrhal angina with erysipelas*, no albumen; three cases of *tonsillitis*, 0·052 per cent. of albumen in one; and four cases of *intestinal catarrh*, 0·052 to 0·184 per cent. in one. (*b*) *Non-febrile internal diseases*—scurvy, aortic stenosis, anæmia, cerebral tumour, dyspepsia, chorea, icterus, &c.—seven patients, aged 5 to 14. Only in a case of syphilitic interstitial hepatitis were some traces of albumen noted. (*c*) *External affections*, in twenty cases, aged from 9 months to 16 years. No albumen was detected in femoral phlegmon, in eczema with nettle-rash, in a case of femoral osteotomy, in fracture of the femur, and in rheumatic synovitis of the knee. Albumen was present in a fatal case of extensive burn, 0·184 per cent.; of multiple lymphoma, 0·064 per cent. rachitis with bed-sore, 0·008 to 0·124 per cent. was observed also in three of eight cases of caries, its quantity varying from traces to 0·024 per cent. Finally, albumen (from 0·024 to 0·244 per cent.) was detected also in three cases of vesical stone and cystitis, its source being of course not in the kidneys.

The general conclusions reached by the diligent author are given as follows. 1. All affections considerably disturbing nutrition of the child's system, and running their course in association with a high febrile state, give rise to albuminuria in an overwhelming majority of cases. 2. The characteristics of albuminuria are usually dependent upon the intensity of the morbid process, and the duration of the febrile period. 3. As a rule, albumen rapidly disappears after abatement or cessation of fever. 4. Non-febrile affections, as well as those accompanied only by slight fleeting febrile movements, seldom give rise to albuminuria of any considerable degree; and when they cause albuminuria, it occurs only as a phenomenon of very short duration.

V. IDELSON, M.D.

ARTICLE 5974.

MAKAVËEFF ON XANTHIUM SPINOSUM AND RUSSIAN BATHS AS PROPHYLACTICS IN HYDROPHOBIA.

IN the *Russkaia Meditzina*, No. 17, 1886, p. 295, Dr. Ivan J. Makavëeff, of St. Petersburg, describes seven cases where the patients were bitten by rabid animals (four by wolves, three by dogs), and subsequently treated by the internal use of powdered leaves of *xanthium spinosum* (Russ. *kolutchka*), given in ten-grain doses, three times daily, and by steam baths, taken every other day, for six consecutive weeks. No cauterisation of the wounds was made in any of the cases. In two of the patients the treatment commenced several hours after the bite; in other two, on the second day; in the remaining three, steam baths were resorted to on the day of the accident, but the *xanthium* powder could be obtained and given only ten days later. In none of the patients hydrophobia made its appearance. Six of them (three were bitten ten years ago; two, nine; one, five; and one two) are still living; the seventh, a man, aged 60, died from old age four years after the bite. Two of his companions, who had been attacked by the same rabid wolf, died from hydrophobia in two or three weeks after the accident.

Dr. Makavëeff emphatically recommends all colleagues to give a fair trial to such a simple prophylactic method of treatment of a formidable disease. During his service in the Kaluga *zemstvo*, the author saw not fewer than thirty cases of hydrophobia. In one of the patients the incubation period lasted ten days; in one, three weeks; in a vast majority, exactly six weeks; in none was it longer. All died on the third day of the disease, in spite of treatment by all possible means (including inhalations of oxygen, which even increased the severity of the symptoms). Some relief of suffering was obtained only from the hypodermic injection of large doses of morphine, and chloral enemata. When a case was seen during the first twenty-four hours after the bite, the author made cauterisation with caustic potassa. He adds that, as far as his own experience goes, he is not aware of a single case (except those treated by xanthium and baths) where the bite was not followed by hydrophobia and death.

The author states, also, that he never saw any case of hydrophobia where anything like 'violence' or 'madness' was present, and generally thinks that the violent behaviour of hydrophobic patients may be brought about only by 'a rough and irritating nursing.' He strongly protests against the opinion regarding the hydrophobic as 'mad and violent,' and implying 'some measures which correspond with the view.'

According to Hager's *Handbuch der Pharmaceutischen Praxis*, *Ergänz. Band*, p. 1240, xanthium spinosum—a plant belonging to the *Fam. compositæ*, *Trib. senecioideæ-melampodineæ*, growing all over southern Russia and southern Europe—was recommended, as a prophylactic against hydrophobia, by Drs. Kostoff and Grzymala, who gave the drug internally, in a daily dose, varying from 50 to 100 grammes, and also applied an iufusion to the wounds. Grzymala bases his recommendation on invariably successful results obtained during twenty years' practice. The herb possesses diaphoretic, diuretic, and ptyalogogue properties, increases the temperature of the body, favours the digestion, &c. As Yvon's researches show, it does not contain any alkaloids.—*Rep.* V. Idelson, M.D.

Article 5975.

LUKASHEVITCH ON SUBCUTANEOUS INJECTION OF CUCAINE.

At a meeting of the Kiev Medical Society, Dr. Alexandr J. Lukashevitch, of Kiev, made an extensive communication (*Medits. Obozr.*, No. 10, 1886, pp. 950-67) on his physiological experiments with hypodermic injections of cucaine, as well as on their application to minor surgery. The author's main physiological results, established by 150 experiments on himself and seventeen soldiers, may be found in the London Medical Record, February 1886, p. 62. As it might be expected, the anæsthetic effects of the injections are explained by the author by the loss of conductibility of the nerves coming into direct contact with a solution of the drug. As a matter of fact, he, like Feinberg (*see* the London Medical Record, November 1885, p. 470), saw a temporary destruction of sensibility from applying solutions of cucaine to exposed nerves in animals. Loss of conductibility in thin cutaneous nerves (such as the palmar digital rami) may be obtained by injecting $\frac{1}{8}$ of a grain; an injection of $\frac{1}{4}$ to $\frac{1}{2}$ a grain destroys the conductibility of any cutaneous nerve, provided the drug is injected in the immediate vicinity of the latter. To study the general effects of cucaine injections, the author undertook a special long series of experiments on himself and other persons, and came to the following conclusions.

1. An injection of $\frac{1}{16}$ to $\frac{1}{8}$ grain of the drug has no general effects whatever.

2. A single injection of $\frac{1}{4}$ grain brings about a slight quickening of the pulse (which becomes fuller) and of the breathing. On repeating the dose in 1 to 1$\frac{1}{2}$ hour, there appears, within ten or fifteen minutes, a sensation of cheerfulness and general freshness, as well as a pleasant and contented disposition of mind, the symptoms lasting for about four or five hours, and being followed by sleeplessness at night and a vague frontal headache in the morning, of three or four hours' duration.

3. An injection of $\frac{1}{2}$ grain produces, within three or four minutes, a pleasant feeling of warmth all over the body, slight noises in the ears, giddiness (especially in erect posture), acceleration and shallowness of breathing (30 a minute), quickening, fulness, and, sometimes, irregularity of the pulse (120 a minute), dilatation of the pupils (of ten to fifteen minutes' duration), slight enlargement of the palpebral slit, and sometimes, within five or ten minutes, perspiration over the forehead and hands. Within the next five minutes, the giddiness and aural noises disappear, and the pulse and respiration become less frequent; there appear general freshness and cheerfulness, freedom and easiness of all movements, and high spirits, which last four or five hours, and are followed by obstinate sleeplessness during the night, by morning frontal headache of five or six hours' duration, and by feeling out of sorts during the whole day.

4. To study the effects of a prolonged administration of cucaine, the author undertook a nine days' experiment on himself; the experiment consisted in injecting $\frac{1}{4}$ grain once or twice daily. From the sixth day, every injection was followed by general irritability, unpleasant feeling of occipital pressure, burning sensation in the eyes, slight tremor and coolness of the limbs, obstinate sleeplessness, incapability to do any work, fatigue, &c. About two or three days after the last injection, all the phenomena gradually disappeared.

Hypodermic injections of the alkaloid were tried by Dr. Lukashevitch in the following minor operations. 1. In incision into whitlow of the thumb (three cases) and fingers (six cases). In all of the latter cases, and in one of the former, the incision was absolutely painless; in the remaining two, only partial, though very marked, anæsthesia was obtained. In all the cases, two injections, of $\frac{1}{8}$ to $\frac{1}{5}$ grain each, were made (both in the middle of the palmar surface of the first phalanx, one in the direction of the external volar digital nerve, another in that of the internal). Anæsthesia was complete in five or six minutes after the injections. 2. In two cases of excision of ingrowing nail. In both, operation (of six minutes' duration) was entirely painless

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* Lukashevitch, Alexandr J.—On Subcutaneous Injections of Cucaine. (*Medits. Obozr.*, No. 10, 1885, pp. 950-67.)

It was performed six minutes after the last of three injections, of ⅛ grain each, two of which had been made on both sides of the plantar aspect of the first phalanx of the toe, and one on the inner side of its dorsal surface. 3. In two cases of excision of warts, of the size of a large bean, situated on the hand. In both, an injection of ¼ grain of the drug secured in five minutes a quite painless excision of the growths, and as painless suturing of the wound. 4. In two cases of opening large abscesses, with the same result as mentioned under 3. In excision of cystic tumours of the face (three cases), of the back of the neck (three cases), and of the palm of the hand (one). In two of the cases where only one ¼ grain injection, close to the tumour, had been made, the cutaneous incision (7 centimètres long), and dissection of the cyst on the side of the injection, were quite painless, while the dissection on the other side was accompanied by slight pain. In five other cases, where two lateral injections (of ¼ grain each) had been performed, there was present trifling pain only on removing the deepest part of the cyst. 6. In a case of removal of broken glass from the hollow of the hand, incision, removal, and sewing were quite painless after the injection of ⅛ grain of cucaine. 7. In two cases of incision into inguinal buboes, there was no pain. 8. In a case of scraping out a crural ulcer, there was almost no pain. 9. In two cases of tapping hydrocele, there was no pain. 10. In three cases of excision of acuminated condylomata, no pain was produced. Besides, the author used cucaine, in the shape of powdering, or painting with a 4 or 5 per cent. solution, in a case of ranula, where he removed a large piece of the sac, and in four cases of abscess of the gum. V. Idelson, M.D.

Article 5976.

TCHUNIKHIN, SUTUGIN, AND LVOFF ON INHALATIONS OF OXYGEN IN ECLAMPSIA.

In the *Russkaia Meditzina*, Nos. 35, 36, 37, and 38, 1885, Dr. J. M. Lvoff, of Kazan, details a very severe case of puerperal eclampsia in which he tried the oxygen treatment (as suggested by Professor V. G. Lashkevitch, and successfully practised by Dr. Favr). The patient was a strongly built and well-nourished primipara, aged 18, who for the two last months of pregnancy had suffered from albuminuria, dropsy, and all the symptoms of cerebral congestion, and in whom the first convulsive fit occurred simultaneously with the first labour-pain. Neither chloroform inhalations, nor instrumental extraction of the fœtus, nor chloral enema, arrested the convulsive paroxysms. Bearing in mind the brilliant success achieved by Favr, the author resorted at last to oxygen inhalations; but, after persevering for an hour and a half he gave up the experiment, since from the very first moment the symptoms rapidly and most distinctly grew worse, the paroxysms occurring with increased frequency and intensity, the breathing becoming stertorous, &c. The patient ultimately recovered under the subcutaneous injection of hydrochlorate of pilocarpine (two injections having been made, one of ⅙, and another of ⅛ grain).

Anxious to explain the striking difference between the results obtained from oxygen in the case above and those observed by Favr in his two cases, Dr. Lvoff reviews the whole vast question of eclampsia, and arrives at the following conclusions. 1. Eclampsia gravidarum et parturientum is an independent pathological unity (and not a symptomatic affection). 2. The disease is based on chemical alteration of the blood (characterised by 'an excessive quantity of carbonic acid or defective amount of oxygen in connection with hydræmia'), and on retardation of the velocity of the circulation in presence of increased arterial tension. 3. Eclampsia may be caused by all conditions increasing the said alterations in the blood and circulation, and leading to changes in the circulation and nutrition of the brain (such as the labour process itself, mental shock, &c.) 4. Alterations occurring in the kidneys and other viscera are of a secondary, and not of a primary, nature. 5. Eclampsia is a constitutional disturbance, a disease of the blood (and not of any individual organ in the body).

Starting from these propositions, the author lays down the following indications for the treatment of eclampsia. The treatment must—(*a*) remove the cause, if possible (which, as a rule, means the completion of delivery as rapidly as possible); (*b*) aid the blood to regain its normal composition (that is, to act against hydræmia and excess of carbonic acid in the blood); (*c*) remove cerebral congestion and œdema; and (*d*) soothe cerebral superexcitability. Hence the therapeutics of eclampsia consist in acceleration of labour, in the use of sudorific means, in narcotics (chloroform, chloral, bromide of potassium), sometimes in blood-letting, the use of derivative agents, and oxygen inhalations.

According to the author, the therapeutic action of oxygen is limited to diminishing excessive quantities of carbonic acid present in the blood, and in correspondingly destroying the influence of carbonic acid on the brain and heart. Hence, when oxygen is resorted to somewhat late in the case (when there is already present cerebral œdema), no good whatever may be expected. Oxygen may prove useful only when employed in an early stage of the disease, and here again only after the removal of the immediate cause of the eclamptic paroxysms. In conclusion, Dr. Lvoff briefly records twelve cases of eclampsia which have come under his observation during the last six years. Only one patient died (from acute cerebral anæmia). Eleven of the twelve patients were primiparæ, and ten of the twelve enjoyed flourishing health before the advent of the disease. In all the cases the forceps was used, every infant remaining alive.

In the *Vratch*, No. 37, 1885, p. 610, Dr. P. N. Tchunikhin, of Kharkov, records two cases of puerperal eclampsia, in which he employed oxygen inhalations as recommended by Lashkevitch and Favr. In one of the cases, that of a secundipara, aged 30, the effect was excellent. After the very first inhalations (which had been commenced during a fourth paroxysm) the severe convulsions ceased, and in twenty minutes the patient was quietly sleeping. She awoke conscious, and only feeling somewhat weak. There was no return of convulsions. The patient made a rapid and uninterrupted recovery. About three-fourths of a cubic foot of the gas was used, the inhalation lasting about ten minutes. Another case was far less satisfactory. The patient, a primipara, aged 24, died after twenty severe paroxysms which occurred at the intervals of from a quarter to half an hour, and seventeen of which took place after (instrumental) labour. The treatment consisted at first in chloroform inhalation, then in oxygen inhalation (one cubic foot), then—after the supply of the gas was exhausted—in the administration of bromide of sodium, wet packing, chloral and opium enemata, ice to the head, and, finally, again in oxygen inhalation (another cubic foot). None of these means made any visible impression on the severity or duration of the fits. As to the free intervals, oxygen alone proved capable at first of rousing the patient, and subsequently of relieving breathing, cyanosis, and excitement.

In the *Vratch*, No. 38, 1885, p. 637, Professor Vasily V. Sutugin, of St. Petersburg, states that he first tried oxygen inhalations in eclampsia as long ago as in 1868. The patient, a healthy non-albuminuric and non-febrile primipara, aged 19, was seized with convulsions in the first stage of labour. Deep cyanosis and stertorous breathing having appeared after ten paroxysms, the author resorted to oxygen inhalations. The respiration became easier, and cyanosis lessened. After a twelfth paroxysm, the author was enabled to extract the child by forceps. For the first two hours after parturition the patient slept quietly, but afterwards the fits reappeared with increased severity, and, in spite of resuming the inhalations, the patient succumbed shortly after a twenty-eighth paroxysm. About four cubic feet of the gas were used. Since then, the author has employed oxygen in several nephritic cases of eclampsia, and has found that in severe cases the inhalations were entirely useless, while in milder ones they somewhat relieved respiratory disturbances.

V. Idelson, M.D.

Article 5977.

NEUMANN ON THE HISTOLOGY OF SYPHILITIC AFFECTIONS OF THE SKIN, AND ON INDURATION OF THE DORSAL LYMPHATIC.

The following is a summary of Professor Isidor Neumann's elaborate paper on the histology of syphilides, published, with numerous drawings of the microscopic appearances, in the *Viertelj. für Derm. und Syph.*, No. 2, 1885.

1. It has already been ascertained by other observers that the syphilides depend anatomically on proliferation of round cells in the immediate neighbourhood of the blood-vessels. The vessels of the superficial portion of the cutis and the papillæ of course suffer, but the vessels of the deeper layers of the cutis are also more or less affected. The degree of pathological change is slight in the early macular eruption, but increases immensely in the case of papular and tubercular eruptions and gummata.

2. In the macular syphilide, the morbid products are strictly limited to the papillary layer without invading the epidermis. In proportion as cell-proliferation increases this limit is overstepped; the rete mucosum becomes infiltrated with cells, and its inferior boundary obliterated, so that eventually the round cells lie immediately beneath the tightly stretched horny layer of the epidermis.

3. At an early stage the exudation-cells are true round cells, but after a time they become spindle-shaped, and are found as such on the outer wall of the vessel.

4. Pigment occurs mostly in the form of granules, varying in size, and in colour from orange to brown. These granules lie partly in the exudation-cells and partly in the connective-tissue cells. In the former case, reabsorption takes place easily; in the latter with difficulty, or not at all. If the proliferated cells have reached the rete mucosum they are also pigmented. Granular pigment is also found in the tubes or pouches described by Ehrmann.

5. The framework of the papillæ appears loose and clouded with molecules. This cloudiness is observed also in cutaneous gummata in the deeper layers of the cutis.

6. The follicles are altered in various ways. The hair-follicle is not only surrounded by round cells, but the outer portion of its wall is thickened, and presents, especially in lichenoid and acneiform syphilides, club-shaped pouches, and cystic widenings. Similar changes are also seen in the sebaceous glands.

7. The discovery of giant-cells appears worthy of notice. They were found in syphilitic tubercles, acne, lichen, and cutaneous gummata. In recent macular lenticular syphilides, and in primary lesions the author could never discover them.

8. Certain structures of the skin appear to offer special resistance to these changes—unstriped muscle, for example. In some sections round cells could be seen following the course of the vessels of the arrectores, while in the case of papules of the scrotum, a situation in which the contractile fibre-cells are extremely abundant, the latter were always free from infiltration.

9. As the various forms of syphilides show only various degrees of intensity of one and the same process, no sharply-defined distinction between the several forms can be drawn histologically. But it can be ascertained that in certain cases the follicles are the chief starting-point of the morbid change, and in others the papillæ in which the vessels are attacked.

10. The pigmentation of early syphilides disappears with the disappearance of the exuded round cells.

11. Finally, the author's observations show that the anatomical changes do not always disappear at the same time as the clinical signs; exudation-cells and even pigment may long remain behind in the deeper layers of the cutis, although the eye of the physician may be unable to detect anything wrong on the skin.

Induration of Lymphatic Vessels.—On the male genital organs, especially the dorsum penis, there appear, in consequence of affections of the glans penis, prepuce, or urethra, certain partly cylindrical and partly beaded or notched hard cords, which extend usually as far as the symphysis pubis, and thence sometimes proceed outwards to the lymphatic glands, so that by pulling on the cord one or more glands can be drawn from their bed. In rare cases a second cord extends from the symphysis to one or several glands in the opposite groin.

The lymphatic cord is usually cylindrical in urethritis and soft chancre; flattened, hard, and notched in sclerosis, and exceptionally in balanitis. The cord is sometimes lateral when the ulcer is also lateral, but the usual position is the median line of the penis superficial to the dorsal vessels. While the blood-vessels are embedded in the albuginea of the corpora cavernosa, the lymphatic cord usually runs above them in the cellular tissue of the prepuce, and can be easily separated from them. Circumscribed knots frequently form on the diseased lymphatic; they are usually found about the middle of the dorsum penis, but they may occur at the root of the organ or over the symphysis pubis. The knots which follow soft chancres suppurate in exceptional cases, and then the abscess cavity is deep with undermined edges. In sclerosis, the bubonulus is usually reabsorbed; but sometimes degeneration takes place, in which case an ulcer with hard raised edges results. Swellings of the size of a nut often form at the symphysis, exactly in the situation where the lymphatics form a dense plexus, and exceptionally hard knots form at that part of the lymphatic cord where it arches outwards from the symphysis towards the nearest gland.

The frequency of lymphangitis may be judged from the following numbers. In the four years 1880 to 1883, there were treated at the author's clinic 903 cases of sclerosis. In 84 of them the dorsal lymphatic was affected, and in 40 there was bubonulus as well. The lymphatic cord extended to the symphysis in 22 cases, to the right groin in 2 cases, to the left groin in 12 cases, to both groins in 5 cases. The cord was laterally situated in 2 cases, both on the right side; and in 1 case a lateral (right side) and a dorsal lymphatic cord joined at the symphysis and then separated again.

Authors are not all agreed as to the nature of these cords. Bassereau (*Traité des Mal. Syph.*) found the blood-vessels intact, and the walls of the lymphatics thickened. According to Verson (*Virchow's Archiv*, Band xlv.) the wall of the lymphatic is infiltrated with small cells, and converted into a fibrous connective tissue, which only reveals its origin by its concentrically laminated appearance. There is also proliferation in the adventitia of the veins and arteries. Biesiadecki (*Untersuchungen aus dem path-anatom. Institut., Krakau*, 1872) found the lumen of the lymphatic vessel narrowed, partly by fibrinous coagula with scattered lymph-cells, and partly by epithelium of the intima; while the wall of the lymphatic vessel was infiltrated with cells principally situated around the blood-vessels. Auspitz (*Viertelj. für Derm. und Syph.*, 1877) is of opinion that the cord is due to induration of the connective tissue, by which the dorsal vessels of the penis are surrounded. He also asserts that such cords on the dorsum penis have not yet been proved to extend to the nearest tangible lymphatic gland; nor does he consider that there is any proof that the virus is conveyed by the lymphatics. Bum (*Ibid.* 1883) finds the cords so rarely present that he attaches no importance to them.

Professor Neumann has had the opportunity of making an anatomical examination in several cases of this kind, and in one of them a suppurating bubonulus was also present. In order to determine the nature of the cord in this case, after the abscess was opened, a thin wire, such as is used for inserting in the hollow needle of a Pravaz's syringe, was introduced from within the cavity of the abscess in a direction corresponding to the efferent lymphatic. The parts were then placed in paraffin, and when hardening had taken place the wire was withdrawn, and a horizontal section made. This section, when examined under the microscope, showed clearly that the lumen was lined with epithelioid tissue. As the lymphatic cord lies superficial to the dorsal blood-vessels, the participation of these latter may be obviously excluded. Sections of the veins in the wall of the bubonulus and of the lymphatic cord also showed an absence of proliferation, and the same thing was observed in the case of the arteries in other preparations. In another case, in which the notched condition of the cord was present, the notches were shown by the microscope to correspond with the valves of the lymphatic, and the whole lumen and wall of the vessel were crowded with round cells. In many preparations, however, the blocking was due to endothelial proliferation. According to these researches, there would appear to be no doubt that the cords in question are really lymphatic vessels. As further evidence of this may be mentioned the direction of the cord, which can be followed to the symphysis and thence to the nearest lymphatic gland; the results of anatomical examination; and the freedom of the dorsal blood-vessels. By these facts, again, support is given to the theory that the contagium enters the system by the lymphatics. Entry of the contagious material by the blood-vessels would be more dangerous, seeing that the blood traverses the whole circulatory system in less than a minute. In the lymphatic system, on the other hand, the morbid material must be arrested at the nearest gland, and thus, at any rate for a time, general infection of the system may be prevented. ARTHUR COOPER.

ARTICLE 5978.

BROUARDEL ON SOME ENTOMOLOGICAL FACTS IN RELATION TO MEDICAL JURISPRUDENCE.

AT a recent meeting of the Academy of Medicine, M. Brouardel made known some curious and interesting facts concerning the dead body of a girl 22 years old, which was discovered in a cellar under a heap of straw. The body had lain there about a year, and was in a perfect state of mummification; putrefaction had never set in. One of the limbs was shown at the meeting: it was thoroughly desiccated, the tissues were hardened, and, when struck, sonorous. MM. Brouardel and Audouard attributed this mummification to the dryness of the soil on which the dead body had been placed; but the more important factors were five different species of acarina, which deposited the *débris* of the envelopes of their eggs and carapace among the dust that covered the dried tissues of the body.

M. Mégnin has proved that by studying the generations of acarina which have been at work on a dead body, the date of death can be ascertained. This entomologist, by examining the *débris* of acarina in a child's corpse, ascertained that death occurred two years previously; a judicial inquiry confirmed this statement.

M. Brouardel described the order of succession of different species of acarina which worked on the dead body of the young girl; also the work of destruction accomplished by each separate species. One species absorbs the fluids, another consumes the fatty acids; when a species has finished its work it dies on the dead body, or is devoured by a succeeding species, which in its turn sets to work.

Each generation in summer time lives from six weeks to two months. In the recent Villemomble murder, M. Mégnin established with precision the exact date of the burial of the human remains discovered in the garden. Among the remains a particular kind of ant was observed, which is never found in soil recently disturbed; also the *débris* of acarina known as *œsophagus echinococcus*, which also furnished a chronological indication; portion of a bulb of a lily furnished further proof. Two years must have elapsed in order that the bulb should undergo the alterations it presented.

M. Brouardel commented on the value of these entomological data in reference to medical jurisprudence.

W. VIGNAL.

ARTICLE 5979.

ISRAEL ON OPERATIVE TREATMENT OF ECHINOCOCCUS OF THE LUNG.

DR. JAMES ISRAEL, of Berlin (*Deutsche Med. Wochensch.*, No. 19, 1886) supposes that the following objections have stood in the way of more frequently making an incision into an abscess of the lungs; the difficulty of diagnosis, the fact that there is often spontaneous healing through expectoration, and chiefly the fear of opening a healthy pleural cavity and thereby causing a pneumothorax. But he points out that many cases left to themselves end fatally; and his experience has taught him that opening of the pleural cavity involves no danger, if it be soon closed with antiseptic precautions, since the air thus admitted is at once absorbed. Hence the all-important point to be kept in view, in operating for echinococcus, is the limitation of the quantity of air admitted into the pleural cavity. To attain this there are two methods from which to choose; (1) either to open the thoracic space after extensive resection of the ribs, and at once to make the incision of the cyst after stitching the lung to the pleura; or (2) first to plug the incised pleura, and after three days to open the cyst when the lung has begun to adhere to the thoracic wall.

The first method is adopted if there be decided pressure in the thoracic space, *e.g.* in case of large tense echinococcus-sacs lying immediately on the thoracic wall. In this case, the cyst itself acts as a plug as soon as the pleura is cut open. A sure sign of such pressure is when the space laid bare by resection of the ribs is not contracted during inspiration. In other cases, the second method must be adopted with the following precautionary measures. Hooks are inserted into the costal pleura laid bare by resection, above and below the intended line of incision, and are held by an assistant. The incision is done in stages during the expiratory acts, a second assistant following the knife with pads of iodoform gauze, so as to close the wound before the next inspiration can draw in air. After the whole incision is completed the first assistant (only at the commencement of an expiratory act) opens the wounds with the hooks stage by stage, and the pad is pressed in.

In the following case, Dr. Israel had intended to follow one of these methods, but the unexpected consequences of an exploratory puncture led to a different mode of procedure. In a young woman who complained of pain in the chest, difficulty of breathing, cough, and occasional spitting of blood, there was found to be considerable arching below the third right rib, with dull percussion-sound and absolutely no respiratory sound or vocal fremitus. During a deep inspiration, the lower limit of the respiratory sound sank to the fourth rib. This excluded the possibility of pleuritic exudation. The regular expansion of the larger portion of the right side of the chest and the sudden transition from absence of respiratory sound to a normal condition, seemed to point to the presence of an echinococcus. Aspiration with a Pravaz's syringe confirmed this diagnosis by withdrawing the characteristic fluid and a minute shred of tissue, which proved under the microscope to be compressed lung-tissue. Almost immediately violent irritative cough set in, bordering in a few moments on suffocation. A thin frothy fluid, eventually tinged with blood, poured from the mouth and nose, the quantity amounting in some hours to about 1,500 cubic centimètres. Though the percussion-sound between the second and fifth rib improved, the general condition grew worse. The temperature rose to 104°·5 F.; diffuse bronchitis was developed; pleuritic pains set in, and the breathing became very laboured. Immediate operation was rendered imperative. A trial puncture with the Pravaz's syringe showed that a fresh exudative pleuritis was the cause of the dyspnœa and fever, a superficial insertion bringing out a cloudy exudation, and a deeper one the clear fluid of the echinococcus. It being impossible under these circumstances to make the lung adhere to the thoracic wall, the pleural cavity was freely opened after resection of 6 centimètres of the seventh and eight ribs. Yet only a small quantity of cloudy exudation was intermittently discharged, on account of the echinococcus-sac stopping the wound at each expiration. In order to empty and wash the cavity, the sac had first to be cut. This done, a large parent-cyst with several daughter-cysts appeared, and a corresponding quantity of clear fluid was discharged. At its lower pole, the sac adhered to the diaphragm. The cavity was drained, and after disinfection an iodoform gauze bandage was applied. A further complication with broncho-pneumonia on the other side of the lung was overcome, and healing progressed slowly but favourably.

Dr. Israel points out how small the risk of the radical operation is as compared with that of an exploratory puncture. The latter should only be attempted after reducing reflex excitability by injection of morphine or preferably by chloroform.

JOHN ELLIOTT.

ARTICLE 5980.

SEGUIN ON HEMIANOPSIA OF CENTRAL ORIGIN.*

DR. SEGUIN has made a valuable contribution to the interesting question of the pathology of cortex-hemianopsia. His paper is a difficult one to abridge or abstract satisfactorily, inasmuch as it is very concisely written. The outlines of the reasoning and the conclusions reached will be given here. If further details be wished for, they must be sought for in the original, French or English (for the article appears to have been independently published in the Paris as well as in the American journal).

The terms hemiopia and hemianopsia are first distinguished. Hemiopia means loss of perceptive power in one half of the retina, while hemianopsia signifies obscuration of one half of the visual field.

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* *Journal of Nervous and Mental Diseases*, January 1886. Separately reprinted. Also *Archives de Neurologie*, March 1886.

Right hemiopia, for example, corresponds to left hemianopsia.

There are several forms of hemianopsia: 1. horizontal, superior, or inferior hemianopsia, almost always due to defects within the eye, and of relatively small interest to the neurologist; 2. vertical hemianopsia, almost always due to lesions of the retro-ocular nervous visual tract, and hence of great importance in neuro-pathology. Subordinate varieties are (*a*) temporal, (*b*) nasal, and (*c*) lateral hemianopsia. Temporal and nasal hemianopsia are caused exclusively, so far as is at present known, by lesion of some portion of the optic chiasma. Lateral or homonymous hemianopsia is always due, so far as we know at present, to lesion of one optic tract or of the more central parts of the optic apparatus as far back as the cortical centre for vision in one hemisphere. [The author does not mention the functional hemianopsia of migraine.]

The author's aim is the investigation of those cases of lateral hemianopsia where the lesion was in some portion of the central optic apparatus. With this view he has collected forty cases with necropsies, and five traumatic cases without necropsies. All these cases are carefully analysed and tabulated in six groups:—1. Cases indefinite or useless for the study of localisation; four in number; 2. Cases probably due to pressure on the optic tracts or chiasma without lesion of the central optic apparatus; three in number; 3. Cases due to lesion of the corpus geniculatum laterale, of the optic thalamus, or of both; six in number; 4. Cases due to lesion of the white substance of the occipital lobe; eleven in number; 5. Traumatic cases from injury of the occipital region of the skull and subjacent brain; five in number; 6. Cases due to lesions of the cerebral cortex, either alone or with the subjacent white substance; sixteen cases. Of these sixteen cases, in four the lesion was so circumscribed, and situated so nearly in the same spot of the cortex cerebri in each case, as to afford, in the author's opinion, a solution of the problem of the seat of the cortical visual centre.

All the cases are tabulated; and the four conclusive cases just mentioned are reported independently as well, and are illustrated by diagrams, which show more clearly than words the precise seat of the lesion.

The main features of these four cases may be recorded. First: we may take Seguin's own case, observed in 1885. Left lateral hemianopsia appeared suddenly, and persisted till death, six months later; the vertical line passed a little to the left of the point of fixation. The patient was able to read and write. He always complained that his left eye alone was affected. The pupils and fundus were normal. Central vision was good. There was no hemiplegia or anæsthesia. He had slight ataxia in the left hand. At the necropsy a patch of old softening, due to an embolus from the mitral valve, was found involving almost the whole of the right cuneus, not quite reaching the apex of the occipital lobe. It included part of the gyrus hippocampi, the fifth temporal, and encroached on the fourth temporal gyrus. The second case is one recorded by Haab in 1882. In it there was left lateral hemianopsia; the vertical line reaching quite (?) up to the point of fixation. The patient complained only of the left eye. He had had an attack of left hemiparesis, rapidly passing away almost entirely. There was no anæsthesia. Central vision = 1. Hearing was good. Intelligence was normal. In the right fields colour-perception was good. At the necropsy there was found a patch of softening (cavity and débris), mostly on the mesal aspect of the occipital lobe including the apex, and involving the inferior half of the cuneus, the fifth temporal gyrus (Ecker), and the fissura hippocampi. The white substance was destroyed as far as the ventricle. The third case is one from Charcot's service, related by Féré. There was right lateral hemianopsia, and after death the greater portion of the left cuneus was found destroyed, the fifth temporal gyrus being also slightly involved. Slight right hemianæsthesia to pain and cold had been present. Hearing, taste, and smell had been normal. In the fourth and last of these cases, one of left lateral hemianopsia recorded by Huguenin, a caseous tumour, about an inch in every diameter, was found on the mesal aspect of the right occipital lobe, firmly adherent to the pia mater, and partly embedded in the brain. It was over the fissura hippocampi, extending above and below it, and into the cuneus. There had never been either localised paralysis or anæsthesia.

From all the cases recorded in the paper, the author draws the following conclusions. 1. Lesions in the mesal aspect of the temporal lobes, or even in the other basal districts of the hemispheres, may give rise to hemianopsia indirectly, by pressing upon the primary optic centres or upon the tractus optici and chiasma. 2. Lesions of the corpus geniculatum laterale, pulvinar, and latero-caudal parts of the thalamus may cause hemianopsia, usually in association with hemianæsthesia and hemiplegia, or hemianæsthesia alone. 3. A lesion of the white substance of the occipital lobe, in the caudal radiations of the internal capsule, may cause hemianopsia alone, or with hemianæsthesia. 4. Lesions of the supramarginal gyrus, angular gyrus, and inferior parietal lobule with the subjacent white substance, may cause hemianopsia, with or without other symptoms (hemiplegia, loss of muscular sense, word-deafness, &c.). 5. A lesion of greater extent, involving the speech centre, the motor convolutions, and the parts enumerated above [4], due usually to embolism or thrombosis of the entire Sylvian artery, will, when existing on the left side, produce aphasia, alexia, hemianopsia, and hemiplegia. 6. Lesions of the occipital lobe, cortex, and subjacent white matter produce blindness when bilateral, and hemianopsia when unilateral. This conclusion is in accordance with Exner's (1881). 7. A lesion of the cuneus and adjacent fifth temporal gyrus (Ecker) on one side produces lateral hemianopsia on the opposite side.

The author reviews briefly the position of Munk and of Ferrier touching the visual centre. After quoting Ferrier's most recent conclusions as abstracted in *Brain*, April 1884, he makes the following remarks: 'It will be seen that the results of our pathological analysis are seemingly favourable to both the theories of Munk and of Ferrier. But, on the one hand, the most conclusive cases, *i.e.* those with the most limited cortical lesions, are wholly opposed to Ferrier's views and in favour of Munk's; and, on the other hand, a peculiarity in the anatomy of the occipital extremity of the brain goes to explain Ferrier's results without assuming the existence of a cortical visual centre in the angular gyrus. It is this—that the optic fasciculus of Gratiolet and Wernicke, on its way from the caudo-lateral aspects of the thalamus, in the internal capsule, passing out of the caudal, lies latero-dorsal to the posterior horn of the lateral ventricle, and close under the inferior parietal lobule and the angular gyrus, on its way to the occipital lobe (cuneus chiefly). A lesion of the angular gyrus, the supramarginal gyrus, and even of the inferior parietal lobule, is almost certain to involve the optic fasciculus, and thus cut the communication between the visual centre and the eyes.'

Finally, the author lays down some rules of diagnosis in regard to hemianopsia. 1. Lateral hemianopsia always indicates an intracranial lesion on the opposite side from the dark fields. 2. Lateral hemianopsia with pupillary immobility, optic neuritis, or atrophy, especially if joined with symptoms of basal disease, is due to lesion of one optic tract, or of the primary optic centres on one side. This diagnosis may be further strengthened and rendered quite certain by seeking for and finding one-sided pupillary reaction, as recently suggested by Wernicke. He ingeniously predicts that only one lateral half of each iris will be found to contract by the reflex effects of light, when one optic tract has been interrupted. He designates this as 'hemiopic pupillary reaction.' 3. Lateral hemianopsia, or sector-like defects of the same geometric order, with hemianæsthesia and choreiform or ataxic movements of one half of the body without marked hemiplegia, is probably due to lesion of the caudo-lateral part of the thalamus, or of the caudal division of the internal capsule. 4. Lateral hemianopsia, with complete hemiplegia (spastic after a few weeks) and hemianæsthesia, is probably caused by an extensive lesion of the internal capsule in its knee and caudal parts. 5. Lateral hemianopsia, with typical hemiplegia (spastic after a few weeks), aphasia if the right side be paralysed, and with little or no anæsthesia, is quite certainly due to an extensive superficial lesion in the area supplied by the middle cerebral artery; we would expect to find (as in a case of Westphal's) softening of the motor zone and of the gyri lying at the extremity of the fissure of Sylvius—viz., the inferior parietal lobule, the supramarginal gyrus, and the gyrus angularis. Embolism or thrombosis of the Sylvian artery would be the most likely pathological cause of the softening. 6. Lateral hemianopsia with moderate loss of power in one half of the body, especially if associated with impairment of muscular sense, would probably be due to a lesion of the inferior parietal lobule and gyrus angularis, with their subjacent white substance, penetrating deeply enough to sever or compress the optic fasciculus on its way caudally to the visual centre. 7. Lateral hemianopsia without motor, or common sensory symptoms; this symptom alone is due, I believe, from the convincing evidence afforded by the cases related above, to lesion of the cuneus only, or of it and the grey matter immediately surrounding it on the mesal surface of the occipital lobe, in the hemisphere opposite to the dark half field. Most surgical cases come at once, or after convalescence, within this rule, or in No. 6. In all cases coming under rules 3 to 7 inclusive, the pupils react normally, and rarely does the ophthalmoscope show any lesion of the optic nerve; except, of course, in some tumour cases, when neuro-retinitis may be expected.

In conclusion, it may be remarked that the original essay will well repay perusal. One criticism need only be made. The barbarous terms 'laterad,' 'caudad,' and 'dorsad,' could easily have been replaced by good English expressions.

WILLIAM R. HUGGARD, M.D.

ARTICLE 5981.

ERB AND OTHERS ON THE MYOPATHIC FORM OF PROGRESSIVE MUSCULAR ATROPHY INVOLVING THE MUSCLES OF THE FACE.

ERB[*] was the first to show that, besides the spinal form of progressive muscular atrophy, there is another well marked variety which he termed the 'juvenile form,' and which runs its course without any change in the spinal cord. It is very closely allied to the pseudo-hypertrophic paralysis of Duchenne and the hereditary form of Leyden. On this account, Erb classed all three together under the heading 'Dystrophia Muscularis Progressiva.' Since Erb, other investigators have demonstrated the existence of this myopathic form beyond all doubt.

Quite recently Landouzy and Déjérine[†] have given a description of a form of muscular atrophy of myopathic origin, based upon the experience of six cases and one necropsy. This form had already been observed by Cruveilhier and Duchenne, but their description was completely forgotten till Remak,[‡] in January 1884, called attention to it anew.

According to Landouzy and Déjérine, it commences usually with atrophy of the muscles of the face, which shows itself by a peculiar dull expression, and the absence of the usual lines and folds in the skin. The eyes are widely opened and the lids cannot be completely closed. The lips are thick and swollen. There is no play of the features except that during laughing the angles of the mouth are drawn upwards and outwards.

Only the muscles supplied by the facial nerve are involved; the muscles of the eye, tongue, and pharynx remain unaffected. After the lapse of some years, the muscles of the rest of the body waste in the same order as in the 'juvenile form' described by Erb; with this difference, however, that there is never any sign of hypertrophy. The deltoid especially is markedly atrophied, while in Erb's variety there is always an evident increase in volume. Fibrillary twitchings and the reaction of degeneration are never observed. The deep reflexes are absent often at a quite early stage. There is frequently a characteristic contraction of certain muscles, especially of the biceps. In all cases, heredity can be traced.

Landouzy and Déjérine consider the absence of hypertrophy a sufficiently well marked and constant sign to justify the separation of these cases from those described by Erb as dystrophia muscularis progressiva, but would class them with the cases reported by Eichhorst,[§] Zimmerlin,[‖] Remak, and Charcot.

Dr. Krecke[**] describes very fully a case that occurred recently in the Medical Clinic at Erlangen in a boy 10 years old. The muscles of the trunk and limbs were much wasted, as were those of the face. The superficial reflexes were present, but the deep were absent. Sensation was not affected. Reaction of degeneration was not present. The facial muscles and the abdominal did not react to the strongest galvanic or faradic currents that the patient could bear. Such a total absence of reaction has only previously been noticed by Remak. Careful examination revealed no disease of the ears, or other reason for supposing that the paralysis and wasting of the facial muscles was due to bilateral pressure on the facial nerves. Moreover, it would be very remarkable if the atrophy of the facial muscles were due to a different pathological cause from that of the wasting of the trunk-muscles. Heredity could not be traced. H. HANDFORD, M.D.

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[*] ERB.—Ueber die 'Juvenile Form' der Prog. Musc. Atrop. (*Deutsch. Arch. für Klin. Med.*, Band xxxiv., S. 467.)

[†] LANDOUZY ET DÉJÉRINE.—De la Myopathie Atrophique Progressive, Myopathie sans Hemopathie. (*Rev. de Méd.*, 1885, No 2 et 4.)

[‡] REMAK.- Ueber die Gelegentliche Betheiligung der Gesichtsmusculatur bei der Juvenilen Form der Progressiven Muskelatrophie. (*Neurolog. Centralblatt*, 1885, No. 15.)

[§] EICHHORST. (*Berlin. Klin. Woch.*, 1873.)

[‖] F. ZIMMERLIN. (*Zeitsch. für Klin. Med.*, 1883.)

[¶] (*Progrès Médical*, 1885, No. 10.)

[**] KRECKE.—Ueber die Myopathische Form der Progressiven Muskelatrophie mit Betheiligung der Gesichtsmuskeln. (*Münch Med. Woch.*, 1886, No. 15.)

ARTICLE 5982.

WALDEYER ON THE POSITION OF THE FEMALE PELVIC ORGANS IN NULLIPARÆ.*

THE observations which Professor Waldeyer makes are from the examination of the bodies of twenty females, nulliparæ, and mostly virgins, between the ages of 15 and 30, and of various female subjects between the ages of 1 and 14. The remarks refer to the positions observed when the subject was placed on the back, which, the author considers, differ little, if at all, from those in the living being in the recumbent position.

Uterus.—In most subjects beyond the age of puberty, and with an empty bladder, the position observed was that described by His, Schultze, and others. The cervix lay nearly in the axis of the pelvis, or formed an angle opening forwards with the vagina. In the neighbourhood of the os uteri internum, the organ was bent so that the corpus and fundus uteri fell quite forward, and lay more or less close to the bladder. In one instance, the uterus and bladder were so near that no loop of intestine could possibly insinuate itself between, and in others the two organs were in contact. When the bladder was full, the flexion was less. Loops of intestine were never found between the bladder and uterus; on the contrary, the space between the latter and the rectum was generally occupied by a loop of intestine, usually the large, which completely filled the space.

The broad ligament lies so that the posterior side looks upwards and the anterior downwards. In the upright position, the greater part of the ligament then would be horizontal.

In an almost equal extent of fulness of the bladder, the uterus shows sometimes a different degree of flexion, which for the most part is at a right angle, but may become still more acute, so that the fundus comes to lie still more anteriorly.

Very frequently the uterus is not placed mesially, but inclines more to one side or the other, the deviation being most commonly to the left This position may be temporary, and due to the ampulla recti being filled with fæces, or to the position of the sigmoid flexure. The author desires, however, to leave it an open question whether the position may not sometimes be of a permanent nature.

A similar flexion to that described above was observed in female children, though not so well marked as in the bodies of those who had attained the age of puberty.

Ovaries.—The observations of His on the position of these organs is confirmed by the author. They lie on the side of the pelvic wall, and often in a well-marked fossa (fossa ovarii, Claudius). Their convex free border looks backwards and inwards, and their attached (hilus) forwards and outwards. In the upright position they would be almost perpendicular, and would then be supported by their vessels or the tubes.

The ovary is almost entirely covered by the Fallopian tube and a part of the broad ligament, and lies thus as under a curtain. Where the uterus is extramedian, more of the ovary is visible on the side from which the uterus deviates.

The Fallopian tube passes from the uterus outwards and then backwards in a shallow curve, over and round the ovary, which it covers chiefly by its pars ampullaris. This curve would in the upright position naturally look more upwards.

Bladder.—When full, the lower portion remains fixed, and the organ extends upwards and laterally, displacing the uterus and its appendages. In the empty state, or when moderately full, a well marked transverse fold of peritoneum lies on the upper part of the bladder. Henle has described this, but only in the male pelvis. It is present both in youthful females, and at and after the period of puberty. It disappears when the bladder is fully distended. To this fold Waldeyer proposes to give the name of 'Plica vesicalis transversa.' From the examination of the pelvic organs of females who had borne children, but who were otherwise normal, the author is disposed to believe that the positions of the uterus and its appendages, which he has described, are those proper to them during the child-bearing period.

BERTRAM C. A. WINDLE, M.D.

ARTICLE 5983.

MENLI-HILTY ON RATIONAL SLEEPING.

IN a paper under this title in the *Archiv für Gesammte Physiologie* (*Der Fortschritt*, June 5) Dr. Johannes Menli-Hilty, of Buchs, proposes to abandon the generally customary position of the body during sleep, and instead to place the feet higher than the head. He says that this habit will easily be acquired by successively lowering and discarding the pillows and bolster, and finally by gradually raising the foot-end of the bed to eight inches. He points out in support of his theory, which he has tested by many years' personal experience, that by this position of the body during rest at night, the circulation will be stimulated and improved, and better nutrition of both brain and nerves will hereby be attained. The author remarks: 'The objection to giving up the hitherto generally adopted manner of reposing during sleep, which has always proved adequate and beneficial, for an unwonted and not yet generally tried position, may be met by the assertion that the still customary posture, with the head raised by one or two pillows and a bolster, has not yet been examined for its advantages and its shortcomings; else it would easily have been perceived that it is not only irrational but, under circumstances, also injurious, and moreover, that it does not afford the same benefits, as the here advocated position with the feet higher than the head.'

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* *Die Lage des inneren weiblichen Beckenorgane bei Nulliparen.* Von Professor Dr. Waldeyer. (*Anatomischer Anzeiger*, 15 Juni, 1886.)

'The brain, being the most sensitive and active organ, requires good and ample nutrition in order to meet all the demands of our nerve-overtasking age. Such adequate nutrition can only be furnished by thoroughly oxydised and freely circulating blood, the unrestrained tendency of which towards the brain is somewhat impeded by the mostly erect carriage of the human body, and therefore necessitates an increased effort of the action of the heart. A position, therefore, which materially facilitates and assists, without consequent injury, the free motion of the blood to the brain, and affords in every respect, within the shortest possible time, complete repair to the nervous centres, exhausted by the day's work, and renders them fit and capable of resuming with renewed strength and vigour the battle of life, surely recommends itself to a more general acceptance.

'Of course, during the generally customary posture in sleep, the flow of the blood towards the brain will be freer than whilst standing upright; else another position would have long ago been adopted. But this mode of nutrition undoubtedly no longer suffices to the present need, and gives rise to the numerous nervous disturbances and to many prevailing affections of the circulatory and respiratory organs. The proportion between supply and repair and waste is no longer equal, the latter being by far the greater, and the whole organism suffers in consequence.'

Undue congestion of the brain is not to be apprehended in the new posture, the thyroid gland acting as a regulator for the proportionate distribution of the blood.

The author recommends his method of 'rational sleeping' as a therapeutic aid, especially in nervous disorders depending on anæmia of the brain and spine, in infantile chorea, in epilepsy, in mental affections, as well as in the first stage of pulmonary diseases, in bronchitis, in sickness during pregnancy, in the treatment of varicocele (modifying the hydrostatic condition of pressure); also in vesical and uterine complaints, in hernia, in diseases of the heart, and as a preservative against apoplexy.

Ferd. Adalb. Junker, M.D.

Article 5984.

ATKINSON ON SCARLATINAL NEPHRITIS.

In a paper read before the Clinical Society of Maryland (*International Journal of the Medical Sciences*, July 1886), Dr. I. E. Atkinson alluded to the frequency with which renal catarrh accompanies attacks of scarlet fever, although it may often escape notice, owing to the fact that in many cases the microscope alone will demonstrate its occurrence by the presence of casts in the urine. The severity of the renal affection varies considerably in different epidemics. In some, albuminuria is present in as many as 70 per cent. of the cases; in others, in only 5 per cent.; while dropsy may occur from 1 in 3 to 1 in 10.

Jaccoud, it is true, declares that for fifteen years he has never seen a case of scarlatinal nephritis among his scarlet fever patients, a result which he attributes to his treatment (*Gazette des Hôpitaux*, No. 58, 1886, p. 418). Both the albuminuria and the dropsy may appear at any period of the attack, though more frequently after the first week. Where systematic examination of the urine is not carried out, the first sign may be suppression of urine and uræmic convulsions. He points out that diminution in the quantity of urine excreted is *per se* a sign of great importance in the course of an attack of scarlet fever, and should excite suspicion. The supervention of renal complications after the fourth week is said to be less dangerous than at an earlier period.

Scarlatinal nephritis, as a rule, pursues a mild and favourable course. Dropsy is the first sign, appearing in the face, and often confined to that locality. It may, however, extend more generally, and may involve the serous cavities. Desquamation is often completely arrested upon the supervention of dropsy. The tongue loses the 'strawberry' aspect and becomes pale, flabby, and coated, and the child becomes dull, listless, and feeble. Hæmaturia is tolerably common, especially during the third or fourth week, but ordinarily adds little to the gravity of the case. The amount of albumen present in the urine varies greatly, and is of less importance than the total quantity of urine passed. Glax was enabled to draw important conclusions from the amount of urinary water in scarlatina. He recognises three types. 1. The total urine is only lessened during the condition of fever, returning to normal on its subsidence. 2. There is increased diuresis at the beginning, followed by diminution. Here the course is protracted, desquamation imperfect, and the heart's action weak. Anæmia frequently develops, cutaneous œdema not seldom; but the urine remains free from albumen. 3. Micturition, diminished during the fever, quickly returns to the normal during defervescence, and then suddenly diminishes and remains scanty until death, or after several days polyuria develops, which slowly sinks to normal diuresis. A lessening of the proportion of urine secreted to fluid ingested (2 : 3) not unfrequently foreshadows the approach of uræmic symptoms, even though the urine contain no albumen. The dropsy is indicative of the amount of the renal derangement, but cases are occasionally observed in which dropsy follows scarlatina, but without albuminuria, and this has been especially marked in particular epidemics.

Scarlatinal nephritis is not associated with any especial type or phase of scarlatina. It is as frequent after mild as after severe attacks; indeed, the care shown in nursing the graver attacks may actually be the means of warding off the renal complications in severer cases. Violent nephritis may follow an attack of scarlatina so mild as to have escaped recognition.

Glomerulo-nephritis is held to be the only characteristic of scarlatinal nephritis. The kidneys are firm, often hyperæmic, and resemble the cyanotic kidney, except that the glomeruli do not appear red on section, but grey and anæmic. They are enlarged and prominent, and the alterations are almost limited to their structure. The alterations in the glomeruli easily account for the anuria and uræmia. Klein, however, did not observe these features as described by Klebs.

The treatment consists principally in guarding against exposure. The daily bath or tepid sponging should be continued, and the patient should be kept in bed at least a week after the cessation of the fever. Mahomed declared that a slight chill during convalescence was sufficient to cause transitory albuminuria.

Jaccoud considers that a rigid milk-diet in all cases of scarlatina is an absolute preventative of nephritis. Should nephritis supervene, it is certainly the best diet for the patient. From two to four pints will be sufficient, the latter quantity even for an adult. Cathartics may be necessary, the best being the compound jalap powder. The skin should be called into action by means of hot air or steam baths, or by the hot plunge-bath, which is highly spoken of by Liebermeister. All stimulating diurètics should be avoided, and the sedative or refrigerant diuretics preferred. Dickinson recommends the free use of water. Leeching or cupping over the kidneys, or the application of sinapisms or poultices, may render great service; and if the ascites be so excessive as to exercise great pressure on the kidneys, paracentesis may be required.

ALFRED S. GUBB.

ARTICLE 5985.

RECENT PHARMACEUTICAL INVESTIGATIONS.

SOME pharmaceutical novelties of the past year have been reviewed in recent numbers (18, 19, and 20) of the *Berliner Klinische Wochenschrift.* The continued tendency to introduce patent medicines is deprecated, and it is justly observed that 'patent preparations are justifiable in the arts and trades, but not in medicine.'

The idea of preparing all medicaments as sterilised preparations has been only mooted to be abandoned as perfectly illusory. Some substances are particularly liable to decomposition when in solution—*e.g. neutral salicylate of atropine.* This substance, which has some advantages over the sulphate, is easily prepared by neutralising an alcoholic solution of atropine (2·3 grammes) with salicylic acid (1·08 grammes).

Iodoform sometimes produces poisonous effects. This substance is poisonous in itself, and should only be used in a very fine powder and in moderate quantity. Adulteration with picric acid is easily detected by shaking up with water and filtering. The filtrate should not be yellow, and should give no brownish-red coloration on warming with potassium cyanide.

Two new alum salts are introduced, the *acetic tartrate of aluminium* and the *acetic 'glycerinate,'* both easily soluble in water, and acting as astringent caustics. The first especially is well adapted for application as a powder in ozæna and other chronic affections of the upper respiratory tract, the caustic effect lasting nearly a week. Half a drachm or a drachm in a pint of tepid water makes an useful gargle or douche.

Absinthin has been examined again. Duquesnel found it to be a very bitter material, crystallising in colourless prisms, slightly soluble in water, easily so in alcohol and ether. Roux declares it to be non-poisonous, and gave from one-tenth to one-fifth gramme of it twice daily. It improved the appetite, regulated the bowels without causing diarrhœa, and was useful in anæmic, chlorotic, and convalescent subjects. It is much to be desired that the exact constituents of the vegetable bitters should be better known, both as to operation and dosage.

Of the two antipyretics, *antipyrin* and *thallin,* Jaccoud prefers the latter. It is less likely to be followed by collapse, and any collapse which may set in shows itself *early*; whereas, in the use of antipyrin, collapse may set in severely when the drug is apparently being well tolerated. Thallin is five times as strong as antipyrin, 0·2 gramme (3 grains) being quite enough to commence with. But these drugs are not antipyretics in the true sense of the word; they only cause a sudden peripheral cooling, which has almost no influence upon the disease. The advantage of their use is doubtful.

Lantanin, a new alkaloid with antifebrile properties, has been discovered and examined by Buiza and Negreta in Lima. It is obtained from a verbenaceous plant, *L. brasiliensis,* and its effects are retardation of the circulation and tissue-changes, and considerable lowering of the temperature. It is well tolerated where quinine cannot be taken, and in doses of fifteen or twenty grains daily cured 95 per cent. of intermittent fever cases treated by it.

Urethan has its sleep-inducing properties confirmed by further observations (Sticker, *Deutsche Med. Wochensch.,* 1885, No. 48). No bad effects followed doses of from two to four grammes, but the urine was much increased. It acts best in cases of pure nervous irritability, but is far inferior to morphia when actual pain is present or severe cough.

Phenyl-methyl-acetone, $C_6H_5—CO—CH_3$, dignified with the name of hypnon, though aceto-phenon is a still better name, is another hypnotic. It is a fluid, easily crystallising below the ordinary temperature, insoluble in water or glycerine, soluble in alcohol, ether, chloroform, or oil. In some individuals it soon causes sleep in doses of six to eight drops, others prove quite refractory to its use. Limousin gave it in capsules with sweet almond-oil. It is not likely to be a favourite, for, besides its uncertainty, it causes a disagreeable odour of the breath, a burning sensation in the throat, and nausea, cough, and eructations. Moreover, Huchard observed headache, sweating, and lowered pulse.

Chloroform has been found very efficient against tapeworms. Doses of two grammes have been given, repeated after twenty or thirty minutes, but troublesome cardiac symptoms may be avoided by giving much smaller doses (a few drops) every few minutes for a few times. Thompson successfully prescribed chloroform ʒj. (by weight), simple syrup to ℥j., to be given in three doses, at intervals of two hours, in the morning, fasting, with castor-oil to follow.

Fürbringer has shown that *calomel,* when applied to condylomata, soon shows traces of corrosive sublimate, and Fleischer has confirmed this.

Soap is again advocated as a substitute for fat in the preparation of *unguentum cinereum,* grey mercurial ointment. This was recommended by Hebert in 1844. Yvon rubs mercury with an equal weight of neutral black or white soft soap. Prollius gives the following: dissolve 2 grammes of potassa fusa in 4 or 5 grammes of spirits of wine, and add it to 15 grammes of grey ointment. Mix 3 grammes of water with it, and let the spirit evaporate.

Van der Heide (*Archiv für Exp. Path. und Pharmakol.,* Band xix.) has made an investigation into the *cumulative action of digitalin and helleboreïn.* It appears that, in dogs, slowing and irregularity of the pulse may set in long after the drug has been steadily given and apparently tolerated, even four weeks afterwards. The nervous system may tolerate the drug when the heart shows its effects distinctly. The facts which speak for a cumulative operation are the following. The lethal effect of small doses persistently given; the lethal effect of an otherwise non-poisonous dose, if small doses have been previously given for some time; the first appearance of pronounced cardiac symptoms only after several doses have been given (at regular intervals); the symptoms of poisoning after long-continued exhibition of a dose, which in itself would have no injurious effect at all. On the other hand, the facts which speak against a cumulative action, and in favour of a gradual accommodation of the system are as follows. The total disappearance of a train of symptoms of poisoning on the continued exhibition of digitalin or helleboreïn in the same dose; the great variability of the intensity of action on the heart, under the use of the same dose which has previously powerfully affected the heart. Practically large intervals of time and small doses are preferable to the opposite. Threatening symptoms which arise early disappear if the same dose be persisted in (*i.e.* with moderate doses), while extreme caution must be used if the heart's action remain *unaffected* within the first few days after beginning the drug. Digitalis is prescribed too lightly and too much by rote.

Cannabis Indica has been again examined, but the officinal preparations are very ineffective compared with the fresh drug. The active principle has not yet been isolated. Cannabin tannate has only a slight hypnotic effect, and *cannabinon*, a resinous kind of substance, cannot be regarded as a hypnotic. A dose of 1½ grains was followed by excitement, then collapse and cramps, then peculiar alternating psychical conditions, but no true sleep.

Tanacetum vulgare (common tansy), and its oil, have been used as anthelmintics, and also as emmenagogues. Tanacetyl-hydrate is an isomeric modification of camphor. In a case of poisoning there were convulsions at intervals, with disturbed ideation, and the pulse was small and thready. Over half an ounce of the oil may be fatal, and even a few drops appear to be not without effect on the system.

It may here be mentioned that Vaughan (*Zeitschrift für Phys. Chemie*, Band x., Heft 2) found small quantities of a ptomaine in some cheeses which had caused gastro-intestinal disturbance in 300 people in America. He calls this substance tyrotoxicon. Only 7½ grains were obtained from 35 lbs. of one cheese, and 1½ grains from the same quantity of another.

Lepage shows that the amount of alkaloid in the root of *conium maculatum* depends on the time of year it is gathered, there being in spring and early summer none in the root, while the rest of the plant may contain it abundantly.

E. J. Edwardes, M.D.

Article 5986.

KRÖNLEIN ON TREPHINING IN CASES OF BLEEDING FROM THE MIDDLE MENINGEAL ARTERY WITHOUT FRACTURE OF THE SKULL.

In a lecture delivered at Strasburg in September last, and published in the *Deutsche Zeitschrift für Chirurgie*, Band xxii., Heft 3 and 4, it is pointed out by Professor Krönlein, of Zurich, that trephining in cases of rupture of the middle meningeal artery without fracture of the skull is one of the most satisfactory operations of surgery, with regard to certainty and promptness in removing a very serious danger to life, and, when performed under antiseptic conditions, to freedom of the operation from risk. In the course of the last three years, the author has trephined in four cases in which he had made a diagnosis of rupture of the middle meningeal artery and consecutive intracranial hæmatoma. The diagnosis was confirmed in every case, and there was always found a considerable supradural extravasation of blood in the region of the middle meningeal artery on the side of the operation. In two of these cases, the hæmatoma was actually found and removed at the time of the operation; in the other two cases this was not so. The former two patients recovered, the latter two rapidly succumbed to symptoms of progressive cerebral compression. In his comments on these cases, two of which are reported here at full length, Krönlein first considers the following question: How, after a diagnosis has been made of an extravasation of blood from the middle meningeal artery having produced severe cerebral compression, is the surgeon to proceed when, neither on the skin and other soft parts, nor in the vault of the cranium, can any indication be found of the locality of the lesion, and when the determination of this point has to be made from the cerebral symptoms and the history of the case?

There are numerous forms of hæmatoma from rupture of the middle meningeal artery, but most of these may be referred to one of two types; either that of *diffused hæmatoma*, in which the extravasation of blood is very abundant and spread over the whole concavity of the affected side of the skull; or that of *circumscribed hæmatoma*, which may, however, be of considerable extent, but in which some portion of the dura mater on the affected side of the head remains attached to the bone. This latter variety of hæmatoma is sharply defined at its periphery, is oval or round in form, and frequently is most thick at its central part. The most frequent situation of the circumscribed hæmatoma is the middle segment of the skull. The extravasation is limited anteriorly by the sharp margin of the lesser wing of the sphenoid, and in part by the superior border of the petrous portion of the temporal bone; below it may extend to the foramen spinosum, and above it often reaches beyond the squamous suture. This variety is called the middle or temporo-parietal hæmatoma. A much less frequently observed variety is the so-called parieto-occipital hæmatoma. This is situated in the posterior segment, and may reach to the falx cerebri above, to the tentorium cerebelli below, and to the occipital protuberance behind. The rarest variety of circumscribed hæmatoma is the fronto-temporal, which corresponds in its thickest part to the frontal eminence, and often extends between the orbital plate and its detached dura mater. The occurrence of one or other of these varieties of hæmatoma in connection with rupture of the middle meningeal artery will depend on the position of the vascular lesion, which again will depend on the nature of the primary injury. The fronto-temporal hæmatoma would be due to laceration of anterior divisions of the anterior branch of the artery, the parieto-occipital hæmatoma to injury of divisions of the posterior branch beyond the petrous portion, and the temporo-parietal hæmatoma to laceration of the vessel in its groove in the parietal bone. Here the main trunk, and also its anterior or posterior branch, may be injured. If the hæmorrhage be limited, there will be only a circumscribed temporo-parietal hæmatoma, but if the extravasation, on the other hand, be profuse, a large diffuse hæmatoma will be found over the whole surface of the cerebral hemisphere. The high vulnerability of the temporal region, together with its free supply of large arterial vessels, explains sufficiently the fact that this is most frequently the locality of intracranial hæmatoma.

With regard to Sir Astley Cooper's statement that 'no difference in the symptoms is produced by the different situations of the blood, and that, whatever be the situation of the blood, the symptoms of compression are the same,' the author points out that it has been clearly shown by Wiesmann, that the clinical characters of cerebral compression due to hæmorrhage from the middle meningeal artery are by no means uniform. The symptoms vary in different cases, and there cannot be any doubt that they vary according to the locality and the extent of the hæmatoma, and to the manner and intensity of the local action of the extravasation on the psycho-motor regions of the cerebral surface. In some cases the arm only is paralysed, in others both arm and leg are paralysed, and in others again, only the facial nerve is affected. A positive diagnosis and rules for direct operative treatment might possibly be based on close observation and grouping of these symptoms, but, unfortunately, the surgeon has not always the opportunity of observing his patient from the time of the injury, or of observing the development of the symptoms. Besides, the indications of compression may be complicated by those of commotion, contusion of the brain, apoplectic extravasations in the brain-substance, or acute alcoholism.

In discussing the proper seat of the operation in trephining for hæmorrhage from the middle meningeal artery, Krönlein points out that, though the application of the trephine at the seat of election for ligature of this artery in its continuity—namely, over the antero-inferior angle of the parietal bone—will expose any diffused hæmatoma, and the temporo-parietal and fronto-temporal varieties of circumscribed hæmatoma, the posterior or parieto-occipital variety is not accessible at this spot. The rule, therefore, is laid down that when dangerous hæmatoma of the middle meningeal artery has been diagnosed, and no reliable indications of the precise locality of the extravasation are presented, either on the scalp or on the cranial vault, trephining should be performed at the above mentioned seat of election. Should this operation, however, fail to prevent any collection of blood, the surgeon, if still holding by his diagnosis, should again trephine, and with the expectation of exposing a parieto-occipital hæmatoma, penetrate the skull just below the parietal eminence. The following directions are given for determining the proper places on the surface of the skull for the application of the trephine; a line is drawn from the upper margin of the orbit backwards along the side of the head, and parallel to the horizontal line of the skull (a line drawn from the auditory meatus to the lower margin of the orbit). In this line should lie both orifices made by the trephine, the anterior being between three and four centimètres behind the external angular process of the frontal bone, and the posterior at the crossing of this line by a vertical line drawn directly upwards immediately behind the mastoid process. A second trephining, which, if made under proper antiseptic conditions, is not likely to subject the patient to any additional danger, is held by Krönlein, and also by Sebatier, to be indicated for the purposes of better removal of coagula, and also of drainage, in cases of diffuse hæmatoma reaching from the frontal bone to the occipital protuberance.

W. Johnson Smith.

Article 5987.

SMITH ON THE IMMEDIATE CLOSURE AND RAPID CURE OF FISTULA IN ANO.

Dr. Stephen Smith, of New York, states in the *Medical Record*, June 12, 1886, that he has derived from his own experience the conclusion that fistula in ano, and old rectal abscess-cavities, whether communicating with the bowel or not, can be cured by removal of the lining membrane and the application of a proper suture, in a period varying from eight to fourteen days. The principles to be borne in mind in this operative treatment are: 1, complete removal of the lining membrane of the fistula and of the abscess-cavity which may exist; 2, accurate and permanent adjustment of the opposing surfaces; 3, thorough antiseptic treatment of the wound. The following is the general plan that has been adopted by the author. An ounce of castor-oil is given to the patient for two succeeding days before the operation, the last day, on which an opiate is taken at bedtime, being omitted. The diet during the after-treatment should consist mainly of milk, as it is desirable to keep the bowels quiet for four or six days after the operation. The parts about the anus are thoroughly washed with soap and water, then carefully shaved, and finally irrigated with a solution of bichloride of mercury. The douche should also be thrown into the rectum, and the operator's index finger be introduced and swept around the folds of the rectum, in order that the mucous membrane may be relieved of any matters lodged in that region. A clean sponge wrung out of the bichloride solution, and having a string attached, is next introduced into the rectum to prevent any matter from the bowel from escaping and soiling the wound. If the fistulous passage be direct, it is incised in the usual manner. If there be an abscess-cavity, this is opened to the full extent, in order to give free access to the lining membrane. The lining membrane is then carefully dissected away, throughout both the cavity and the fistula. The rapid and permanent healing of the wound depends largely upon the thoroughness with which this tissue is removed. It is generally very dense, and can only be completely dissected off with a sharp scalpel or scissors, cutting well at the point. The thin and ragged margins of the wound are then cut away, so as to leave clean and healthy surfaces for apposition and union. In order to secure perfect apposition of the margins of the wound within the rectum, the index finger of an assistant should be introduced into the gut, and then bent as a hook, so as to extrude it. The whole track of the fistula is then brought into view, and the surgeon has full control of the wound. To obtain prompt union, it is necessary to evert the edges of the mucous membrane, and bring the deep cut surfaces into contact.

The success of the operation depends upon securing complete and firm closure of that portion of the fistula which involves the mucous membrane. The first suture, therefore, should be so applied as to bring the deep surfaces together and evert the margins of the mucous membrane. To effect this, Dr.

Smith takes a large-sized carbolised silk ligature, or chromicised catgut, and threads two needles, each having a slightly curved point. One needle is now passed just above the highest point of the incision, and from a fourth to half an inch from the margins of the wound, and the thread is drawn through to its centre. The needles are then passed in opposite directions at intervals of about half an inch, in the same manner as a saddler takes his double stitch when two pieces of leather are held in a vice and united. If the fistula be simple and there be no large and uneven suppurating cavity, the stitches are continued to the external extremity of the incision. They are now tightened sufficiently to bring the two surfaces into apposition, and slightly evert the margins of mucous membrane, but without any strain. The margins of the wound are next nicely adjusted with a continuous suture, the fistulous track having been drawn outwards by an assistant. At the external extremity of the wound a drainage-tube is inserted. When the margins of the wound have been closed, the ends of the long suture are tied. The operation is completed by passing two or three large carbolised silk ligatures entirely under the fistula, and tying them over an iodoform gauze pad rolled firmly and laid along the wound, in order to keep the deep portions of the fistula in suitable apposition. During the operation, irrigation with the bichloride solution is kept up, and iodoform gauze is applied as an external dressing. The sponge is finally withdrawn from the rectum, and a suppository of opium inserted.

In conclusion, Dr. Stephen Smith describes the modifications of this operation which are needed in cases of large and irregularly shaped abscess-cavity. W. JOHNSON SMITH.

ARTICLE 5988.

BROADBENT ON REMOTE EFFECTS OF REMEDIES.

IN the *Brit. Med. Jour.*, August 1886, p. 311, is published the address delivered by Dr. Broadbent at the annual meeting of the British Medical Association. The author takes for his subject some remote effects of treatment, and begins with the familiar subject of gout. A man who suffers from frequent attacks of gout knows that he obtains relief from colchicum or veratrin, &c., and every time he has an attack he resorts to his favourite remedy, paying no attention to the subsequent prostration or after-effects of such treatment. For a time all goes on well, but sooner or later the patient suffers from the imperfect elimination of the waste materials in his system. The colchicum checks metabolism, and nitrogenous waste, other than urea, and uric acid accumulates in the blood and tissues. These impurities provoke resistance in the arterio-capillary circulation, and the condition of high arterial tension, with all its varied damage and danger, is entered upon. All the effects upon the arteries on the one hand, and the heart on the other, associated with contracted granular kidney—viz., arterial degeneration, cerebral hæmorrhage, aneurysm, and dilatation of the left ventricle, valvular disease, are just as commonly produced, independently of kidney disease, by high pressure in the arterial system due to other causes; and such pressure in an extreme degree may be induced prematurely by the means taken to keep down gout. Some of the most striking illustrations of injurious remote effects of gout-specifics are furnished by London painters and plumbers. Whenever these patients suffer from gouty symptoms, as a matter of course they resort to some well-known gout pills, which are effectual in relieving the pain, but they tend to the accumulation of imperfectly oxidised matters in the system; and it is among workers in lead who have resorted to this practice that one sees enormous deposits of urate of soda in the hands and feet, and the arteries ruined by degenerative changes. The author states that in the hands of the physician, colchicum, or other such drugs, may be used with advantage to relieve the acute symptoms, but only when followed by careful after-treatment, consisting of aperients, alkalies, iodides, &c., with careful regulation of the diet, or by a visit to one of the bathing or watering-places known to be efficacious in gout.

Abnormally and injuriously high tension may be encouraged in other ways. One of these is the 'Banting' treatment of obesity. By this means a disproportionate amount of nitrogenised matter is introduced into the system, which has to be broken up, oxidised, and excreted, whilst there is a diminished supply of water to carry on the essential elimination of the tissues. The imperfectly oxidised nitrogenised waste present in the blood provokes resistance in the capillaries, and generates tension in the arteries. The injurious effects of this system are mostly cardiac, producing dilatation of the left ventricle. In cases of glycosuria of stout elderly gouty subjects, an error is often committed in insisting on strict dietetic treatment. In some of these patients the establishment of habitual and free elimination of sugar is coincident with the disappearance of many distressing symptoms. The altered chemistry of the liver is, in some ways, a relief; perhaps it is by the increased elimination of the urea which accompanies the sugar, the two coming from the splitting-up of nitrogenised matters. In these cases there is always high arterial tension (just the reverse to the usual state of the pulse in diabetes of early life). In these cases the total withdrawal of non-nitrogenised materials is a mistake. These patients are better under eliminant treatment, with a modified mixed diet, and go on living indefinitely; many are cured by going to Carlsbad, Marienbad, or Vichy. The author considers that the administration of a blue and colocynth pill once or twice a week, followed up by salicylates and alkalies, as the best method of treating these cases; many times he has found the sugar to disappear from the urine for months, or even years. Another example of injury gradually wrought by a remedy which affords alleviation of symptoms is furnished by asthma. The fumes of powders, such as 'Himrod,' are inhaled by some patients whenever they suffer from the slightest attack of dyspnœa. These powders are largely composed of powerful alkaloids, which gain access to the blood through the pulmonary capillaries, and produce a relaxation of the whole vascular system, and in cases where there is a catarrhal element in the asthma, the right ventricle loses its tone, and becomes dilated, giving rise at last to venous stasis and dropsy. Cases of sick headache are sometimes treated by restricting the patient to a most limited diet, and often these patients become afraid to eat anything, so that they are in an actual state of semi-starvation. If, instead of this, the patient be allowed a good nutritious diet, with plenty of fresh air and healthy recreation, they will become less subject to the attacks as they gain strength. In the same way with some cases of dyspepsia the diet is so carefully restricted that they are actually starved, and often suffering from neuralgia, which is crying aloud for more and better blood to be sent to the nerve-centres. A variety of this dyspepsia is seen in the winter indigestion of women and weakly men. These patients attribute their symptoms to certain articles of diet, and not to the change in the weather. The treatment, therefore, is a good stimulating diet, assisted by tonics, and not a restriction of certain articles of nourishment.

Richard Neale, M.D.

Article 5989.

HARRISON ON THE CAUSATION AND NATURE OF HYPERTROPHY OF THE PROSTATE.

In the *Lancet*, August 1886, p. 389, Mr. Reginald Harrison contributes an interesting article upon hypertrophy of the prostate. The author considers the initial lesion to be the conversion of the prostate into a kind of muscular buttress for providing against a structural incapacity in a contiguous part. The prostate is essentially a muscle and not a gland in the ordinary acceptance of the term. Looking at the position of the bladder at various ages, one sees that in early life it is an abdominal organ, in adult life it is a pelvic organ, whilst in later years the bladder becomes further depressed in the pelvic cavity, so that the posterior wall sinks lower than the neck of the viscus. This undue sinking of the bladder very likely induces hypertrophy of the prostate as a compensating process. Sir Henry Thompson states that actual hypertrophy of the prostate exists in about 34 per cent. of men at and above sixty years of age, but it only produces manifest symptoms in about 15 or 16 per cent. It is thus seen that in the remaining 18 per cent. the large prostate becomes an actual comfort to an elderly man with an incompetent bladder. In some cases the prostate is not enlarged uniformly, but becomes a mass of more or less lobulated projections. These projections are brought about by the constant varying conditions to which the prostatic mass is subjected, and are, so to speak, the unheavings of a frequently contracting ring. It is in these cases that one meets with the urine in a state of decomposition; the prostate with fibrous outgrowths is more irritating to the interior of the bladder, and more productive of cystitis and mucous exudation than almost any calculus one can meet with. As long as the prostate is uniformly enlarged and a constant stream of healthy urine is passing through the bladder, no cystitis will arise, even though the bladder be not completely emptied by each act of micturition. The paper concludes with a few remarks on certain pathological conditions of the prostate, relative to its uses other than as a muscle. The only form of inflammation to which the normal prostate is liable is that which primarily involves its numerous follicles; by the suppuration and coalescence of these follicles the whole area of the prostate may be converted into an abscess. Though the author has met with several cases in which complete or partial damage has thus occurred to the prostate, he has never known any sexual or procreative inability to follow. If the prostate were essential to procreation, this function would be brought to an end after lateral lithotomy and operations of a like nature, but such a thing has never been heard of. Dr. Handfield Jones regards the prostate as an assemblage of mucous follicles, and considers its part in the generative function as a producer of a viscid material which surrounds the seminal animalcules so that they may be more securely transported to their destination. Mr. Harrison sums up the function of the prostate relatively to the sexual act as supplying a secretion which mechanically enables the fecundating fluid to act with greater certainty, at the same time supplying a muscular buttress against which the ejaculatory muscles of the urethra may advantageously act in the emission of the semen.

Richard Neale, M.D.

SURGERY.

RECENT PAPERS.

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5991. Krauss.—The Treatment of Club-foot by Resection of Tarsal Bones. (*Congress of the German Surgical Society.*)

5992. Weir.—Fatty and Sarcomatous Tumours of the Knee-joint. (*New York Medical Record*, June 26.)

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5994. Smith, T.—A Case of Suprapubic Lithotomy. (*Lancet*, August, p. 244.)

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6006. Smith.—On Exploration of the Bladder by Section through the Perinæum. (*Lancet*, August 1886, p. 385.)

6007. Morales Perez, Professor.—Grafts of Frogs' Skin. (*Medica Rev. de Sevilla*, and *El Siglo Medico*, May 30.)

Art. 5990. *Czerny on Neuropathic Affections of the Joints.*—At the Fifteenth Congress of the German Society of Surgery, Professor Czerny, of Heidelberg, pointed out the frequent occurrence of spontaneous fracture in tabetic patients, and considered the question whether, since abnormal fragility of bone decidedly occurs with several other diseases of the nervous system besides tabes, arthropathies analogous to the tabetic are not also to be met with in those neuroses. Six cases were reported of joint-disease, in connection with diverse affections of the central nervous system. There can be no doubt, according to Czerny, that neuropathic subjects are, like—and probably to a higher degree than—other men, predisposed to all possible forms of arthritis. To any objection that the reported cases refer simply to ordinary instances of different forms of arthritis in neuropathic subjects, Czerny would reply that the course of the arthritis in every case is so considerably modified and influenced by the disorder of innervation, that it is very necessary, from a practical point of view, to separate these from ordinary forms of arthritis. Great stress is laid, in this communication, on increased vulnerability of the tissues in neuropathic subjects. This certainly is not so striking with chronic lesions as after crushing injury of the spinal cord, but still decubitus and acute inflammation of the urinary system play a considerable part in the final stage of tabes. As an instance of an affection not dangerous under other conditions proving fatal when associated with tabes, Czerny quotes the case of a tabetic subject who had contracted gonorrhœa, and died after an interval of four weeks from pyelonephritis, cystitis, and purulent pericarditis. Notwithstanding this vulnerability of the tissues, fractures unite and operation-wounds heal very favourably in tabetic subjects. The chief diagnostic signs of neuropathic joint-affections are, it is held, the rapidly destructive course in acute cases, and, in chronic cases, the analgesia, excessive exudation, and extensive destruction of the elements of the joint. In cases of sprain or fracture, especially when the latter injury is due to slight violence—should there be analgesia, it is necessary, Czerny states, to make a careful investigation into the condition of the nervous system. The direct causes of the joint-affection in Czerny's six cases were injury in two, inflammation without any injury in one, and certain trophic conditions of the hand (muscular atrophy, analgesia, contraction of fingers) in the remaining three. These trophic conditions seemed to have been the result of frost-bite. In two cases, well-marked disease of the spinal cord was made out after death; one patient was tabetic. In the remaining patients, who were living at the date of this paper, disease of the cord was indicated by muscular atrophy with contracture of the fore-arm, and analgesia. With regard to treatment, Czerny advocates rest and confinement of the affected limb in splints, with a view of obtaining ankylosis. In cases in which there is advanced destruction, or when suppuration has been established, and threatens mischief, it will be necessary to decide between arthrotomy, resection, and amputation.

5991. *Krauss on the Treatment of Club-Foot by Resection of the Tarsal Bones.*—In a paper read at the Fifteenth Congress of the German Society of Surgery, Dr. Krauss, of Darmstadt, brought forward objections to those methods of treating club-foot, which consist in removal of portions of the skeleton of the foot, and in attempts to straighten the extremity by forcible manipulations. The author thus briefly states his views. 1. The different methods of resection of the tarsal bones impair more or less the form of the foot, the stability of its osseous arch, and the dependent mobility and usefulness of the extremity. On the other hand, a club-foot that has been successfully submitted to orthopædic treatment and tenotomy present a much-improved form, which, especially in young subjects, deviates very little, if at all, from that of the natural foot, and the usefulness of which will correspond with the innervation of its muscles. 2. Resection of the tarsus is not free from risk, whilst orthopædic treatment with tenotomy is quite safe. 3. Extirpation of the astragalus is a more suitable operation for restoring the form of the foot, than removing a wedge-shaped piece of the bones in the direction of the medio-tarsal joint, but it leaves an immovable or insufficiently movable ankle, a weak union between the os calcis and the second row of tarsal bones, and serious shortening of the foot. 4. Resection of a portion of the tarsus spoils the skeleton of the foot to such an extent, that its performance removes almost all chance of a future restoration of the natural form of the extremity, and of its natural functions, by means of suitable orthopædic treatment. 5. There is no conceivable form of club-foot in which tarsal resection is justifiable, except it be in a case of one that is persistently painful in an old subject, and in which there is no prospect of good result from orthopædic treatment. In such a case resection might fairly be tried instead of amputation.

5992. *Weir on Fatty and Sarcomatous Tumours of the Knee-joint.*—The *New York Med. Record* of June 26, 1886, contains an original article by Dr. Robert F. Weir, of New York, on certain movable growths in the knee-joint. The first of two illustrative cases is one of a young man who came under the author's notice for the treatment of an affection of the knee, which had existed for nearly three years. On careful examination of the joint a mass of considerable firmness, like an ordinary loose cartilage, and of the size of an almond, could be felt on the inner side of the patella. The tumour having been exposed by an incision 2 inches in length, proved to be a portion of indurated fatty tissue, attached by a rather broad and thick pedicle, which stretched under the ligamentum patellæ and across the joint. In the second case, an irregularly-shaped, soft growth, of a yellowish-pink colour, and marked by ecchymotic patches on its surface was removed from the left knee-joint of a male, aged 39. The growth, which was found attached by a long slender pedicle, measured 1½ inches in length, 1 inch in breadth, and nearly ¾ inch in thickness. Microscopic examination showed it to be composed of connective tissue, containing in its meshes a great many round and spindle cells, and much blood-pigment. The rarity of both of these varieties of movable bodies in the knee-joint, Dr. Weir states, is great; and concerning those having sarcomatous elements he has been unable, in a fairly extended search, to find more than one other case, which was reported by Simon. Schmolck has recently published two cases of fatty tumour in the knee-joint, associated with synovial tuberculosis. Barwell, it is pointed out, has assigned as a mode of production in such cases, that fatty and other formations may gradually project into a joint, and, by a kind of hernia inwards, may be transformed from an extra-articular to an intra-articular situation. This view, which has been supported by Volkmann and König, will, it is thought, be accepted with regard to those cases in which a record of injury is absent. Cases, however, are referred to Dr. Weir which indicate that lipomatous tumour of the knee-joint may be due to injury. Lauenstein, of Hamburg, removed tumours of a fatty nature from the knee-joint in two cases, in each of which an injury had been received. Dr. Weir has recently met with two cases, in his own practice, of small movable soft masses in the knee-joint, which gave rise to no disturbing symptoms, and which therefore were not subjected to surgical interference. He states that the practical outcome of a review of so few cases of a somewhat obscure affection is, that too much effort should not be made to effect total extirpation, since the removal of the floating portion is all that is needed; and that even in cases in which there is a suspicion of sarcoma a like practice is indicated.

5993. *Schuchardt on the Indications of Resection in Gunshot-wounds of Joints.*—The following conclusions are given at the end of a paper by Dr. Schuchardt, of Metz, on 'Indications at the Present Day of Articular Resections, both Primary and Secondary, after Gunshot Injury' (*Deutsche Zeitschrift für Chirurgie*, Band xxiii., Heft 5 and 6). 1. The resections of joints that were performed for gunshot injury before the era of antiseptic treatment gave very unsatisfactory results, with regard both to mortality and to the subsequent functional capacity of the limb. 2. Formerly, primary resection gave better results than secondary resection with regard both to the recovery of the patient and to the restoration of the function of the injured limb. 3. In consequence of the bad results of articular resection in military practice, the most experienced army surgeons of former times were led to prefer an expectant or strictly conservative plan of treatment. 4. Since the introduction of the antiseptic method of dealing with open wounds, the indications for resection have become reduced, and the prospects of expectant treatment considerably improved. 5. Even when operative treatment is necessary, total resection of a joint is not indicated except when both articular surfaces have been injured over a considerable extent. In most cases of articular gunshot injury, simple arthrotomy will suffice, the bullet and any osseous fragments being extracted, and the joint washed out and drained. 6. Free exposure of the interior of the wound is not indicated, except in cases of very extensive injury of the soft parts and when the wound is dirty. The presence of a bullet or of any other foreign body in the joint does not necessitate a free primary incision into the articular cavity, when the wound is small and the external conditions are favourable. In most cases, cure will be attained without any serious impairment of the function of the limb, by simple antiseptic occlusion. 7. Secondary resection is indicated when expectant treatment has not had the desired result, and should be practised without delay whenever the wound presents an abnormal appearance, and the healing process has been interrupted. 8. The duration of treatment in aseptic cases is a little shorter after primary than after secondary resection; but the difference is not of such a degree as to justify rejection of conservative or expectant treatment on the field of battle. 9. Theoretically, the dangers of a fatal result are less in the primary than in the secondary operation. A comparison in this respect, however, is not quite fair, as the secondary operation is performed only when expectant treatment has failed, and to every single case of secondary resection there are many cases that have been treated successfully by antiseptic occlusion. 10. The functional results depend in the first place on the amount of bone that has been removed, and, in the second place, on the kind of after-treatment. 11. In the knee and ankle, ankylosis, or even a stump after amputation, is to be preferred to a movable joint. 12. Transport is more unfavourable to the patient after resection than after expectant treatment. For this reason, and that of the large number of wounded after any important engagement, and also of the difficulty of performing under such conditions an aseptic subperiosteal resection, it is necessary to avoid, if possible, any recourse on the field to operations of this kind.

5994. *Smith on a Case of Suprapubic Lithotomy.* In the *Lancet*, August 1866, p. 244, Mr. Thomas Smith records a case in which he removed a stone from the bladder by suprapubic lithotomy. The patient was a soldier, aged 43, who carried on his duties until about two weeks before admission, when he sought advice on account of frequent micturition. When sounded, a very large stone was detected. The author decided to perform suprapubic lithotomy, and succeeded in extracting a stone which weighed 24½ ounces. It consisted of phosphates externally, with a large oxalate nucleus. It measured 13 inches in its largest circumference, and 9½ inches in its smallest. The patient made a splendid recovery, though a small sinus remained for some time above the pubes, the edges of which had to be pared and brought together with silver sutures. [In the appendix of the *Medical Digest*, sect. 1057 : 2, several calculi are recorded, weighing from 25 ounces to 33 ounces, some of which were removed *post mortem*. Mr. Smith's case is among the largest successfully removed during life.—*Rep.*]

5995. *Raven on Retraction of the Penis.* In the *Lancet*, August 1886, p. 250, Mr. T. F. Raven describes the case of a young man, aged 27, who summoned the author one night because he found his penis was rapidly shrinking. When Mr. Raven arrived, the glans was only just perceptible under the pubic arch. The next day the organ was restored to its natural state. The patient could give no reason for the occurrence, and the unnatural condition never returned. A case was recently reported in a Russian journal of a young man, aged 23, whose penis disappeared in a similar manner, being recaptured after much difficulty. This patient tied a string around the organ in order that it should not again escape him. In this instance six days elapsed before the tendency to retraction was finally subdued.

5996. *Snow on Circumcision.*—In the *Lancet*, August 1886, p. 331, Mr. Herbert Snow suggests that instead of performing circumcision, there are many cases in young children, where a pair of dressing forceps can be introduced under the prepuce, and the skin stretched by separating the blades. This can be done the first time under the influence of cucaine locally applied, and afterwards there is no trouble in drawing back the foreskin every morning for a few days. [The many methods by which this simple and effective plan of treatment has been carried out are noted in sect. 1166 : 4 of *Medical Digest* and Appendix.—*Rep.*]

5997. *Lowndes on the Treatment of Orchitis and Epididymitis.*—In the *Lancet*, July 1886, p. 163, Mr. Lowndes describes the treatment adopted at the Liverpool Lock Hospital for cases of orchitis and epididymitis. The affected testicle is painted with a solution of nitrate of silver (two drachms to the ounce), at the same time strict rest in bed is enforced, and the inflamed organ is supported upon a small pillow. When the patient is compelled to go about his ordinary work, the painting with nitrate of silver tends to cure the case more rapidly, but it does not get well so quickly as those that take complete rest in bed. [In 1868 Mr. Jordan cured cases in twenty-four hours; *vide* sect. 1220: 5 *Medical Digest.—Rep.*]

5998. *Treves on Fractures of the Patella.*—In the *Brit. Med. Jour.*, July 1886, p. 153, Mr. Fredk. Treves contributes an article on the treatment of fractures of the patella. The mode adopted by the author during the last twelve months is thus described. The limb is secured upon an ordinary straight back-splint, so as to keep the knee fully extended; a foot-piece prevents any shifting, and the splint is secured to the limb by straps and buckles. The knee, after being washed, is well purified by carbolic acid. The position of the patella is carefully marked out in pencil on the skin and the sites for the points of Malgaigne's hooks indicated. It is important that the hooks should enter the bone at equal distances from the middle line. Four punctures are then made with a sharp tenotome at these points, the instrument passing down to the bone in each case. The two upper punctures will open the synovial cavity, and through them the fluid in the joint is very easily evacuated. The two lower punctures are outside the joint; as soon as all fluid has escaped, the hooks are applied. Each part of the apparatus must be applied by itself. When the hooks have acquired a good hold, the two segments of the instrument should be screwed together, so that the fragments are brought into close contact. The upper fragment has a tendency to 'ride' a little; this is corrected by passing a tape over the upper hooks and under the knee, and fixing it by a leaden clamp, so that the tape can be tightened when necessary. This operation is performed without any anæsthetic, and under the carbolic spray. After the hooks are secured, the spray is discontinued, and the four punctures are well covered with iodoform. The limb is then placed upon an inclined plane, to which the splint is lightly secured. The author insists that the knee should be always fully exposed to the air. All wounds of the lower extremity heal much better if never covered by the bed-clothes. The non-injured part can be kept warm in the winter by cotton-wool. The after-consequences of this method are generally of no moment, and the hooks can be removed at the end of six weeks, but they can be maintained in position for eight weeks without any inconvenience. The union in every case thus treated has been firm and secure, with no appreciable interval between the fragments.

5999. *Annandale on a Case of Removal of the Entire Lower Jaw by the Mouth for Acute Necrosis.*—In the *Lancet*, July 1886, p. 165, is reported a case under the care of Prof. Annandale, of a little boy, aged 7, who was admitted into the infirmary on account of suppuration of the lower jaw. Ten days before admission, the child complained of acute pain in the region of the last molar tooth on the right side of the lower jaw, which in common with its fellow was carious. Two days later, he was seized with a rigor, and suffered intense pain from a swelling in the gum, which eventually burst into the mouth, discharging much pus. The tissues of the gum were freely incised. On the following day (one week from the commencement of the attack it was noticed that a large portion of the lower jaw was exposed, and two carious teeth were extracted. Two days later, several teeth dropped out and the child was sent to the infirmary. After watching the case for two or three days, Prof. Annandale decided to place the boy under chloroform, and made an examination of the mouth, with the result that the entire lower jaw was found to be necrosed, its whole periosteum separated, and its connection with the surrounding parts only maintained by some portions of the ligaments at the articulations. These attachments being easily separated with the finger, the entire lower jaw, in one piece, was drawn out of the mouth. The patient was better for two or three days after the operation, but died on the fifth day from hæmorrhage of the gums and subsequent exhaustion. No necropsy was allowed. Some remarks are added, entering into the various causes which might have brought about this grave condition, and the only suggestion that can be considered at all likely to have been the primary cause, is that the child was just cutting his second teeth, and that the usual inflammation consequent on the cutting of a tooth passed to and affected the carious molar of the first dentition.

6000. *Whitehead on Excision of the Coccyx.*—In the *Lancet*, July 1886, p. 112, Mr. Walter Whitehead describes two cases in which he excised the coccyx with great success. One patient, aged 59, had suffered for twelve years from distressing pain in the seat, caused by an ischio-rectal abscess, which was found to lead down to a necrosed coccyx. An incision was made down to the bone, and the three last segments of the coccyx removed; the wounds were well scraped, to remove all unhealthy granulations, and then plugged with iodoform gauze. The patient made a rapid and excellent recovery. The second case was that of a man, aged 37, who had suffered, more or less, from pain in the region of the coccyx for fifteen years. On examination, the bone was found bent at a right angle; this was excised, and the wound healed rapidly, giving the patient complete relief. Some years ago the author removed the coccyx in five cases of coccygodynia in females, all produced by injury during parturition. In every case complete relief was obtained. The treatment of coccygeal pain falls under three heads. 1. By means of rest and anodynes. 2. By complete or partial separation of the bone from its muscular connections. 3. By excision of the bone. Cases in which surgical interference will probably be required are thus classed together, old fractures and dislocations, in which the bone has become fixed in a faulty position; congenital *elongation* of the coccyx, necrosis; tumours connected with the coccyx; and finally a large group of cases of obscure pathology, in some of which there appears to be periostitis of some or all of the segments; in others, inflammation of the sacro-coccygeal joint.

6001. *Davy on Rectal Fistula and Hæmorrhoids.* In the *Brit. Med. Jour.*, July 1886, p. 143, Mr. Richard Davy contributes a lecture upon rectal fistula and hæmorrhoids. The author commences by stating that he seldom examines a patient per rectum, unless under an anæsthetic, and prefers the lithotomy position, as being the only way in which it can be satisfactorily accomplished. No better speculum can be used than that invented some ten years ago by the author. It is of wire, made by Wright & Co., for the small cost of five shillings. In cases of rectal fistula the complete division of the sinus or fistula, and the sphincter recti muscle is all that is required. Rest in bed and a good nutritious diet should be insisted upon until cicatrisation is complete. In the treatment of external piles, rest in bed, cleanliness, temperance and enemata, will often suffice; should it be necessary to operate then, all superfluities of skin outside the anus should be snipped off, and the wounds treated as ordinary sores. For the cure of internal hæmorrhoids the author uses the cautery and clamp. The requisites of a good clamp are—1, firmness of grasp; 2, quick action; 3, a con-conducting medium placed between the cautery and the patient's skin. All these requirements are found in the clamp used by the author. If there should be any oozing, a sponge covered with oiled silk and tightly compressed is the best form of plug that can be used. The after-treatment consists in good nutritious non-stimulating diet, with rest in bed, the moderate use of opium, and retention of fæces. In some cases the author keeps the bowels confined for two or even three weeks, but a week is usually enough. The patient is well about one month after the operation.

6002. *Thomas on Urinary Difficulties occurring in Boys.*—In the *Lancet*, August 1886, p. 339, Mr. Wm. Thomas publishes an article upon the urinary troubles of children. Amongst the cases recorded one is especially interesting. A boy, aged 11, was admitted into the infirmary, having about twenty-four hours previously fallen with his perinæum across a rail. A catheter could not be passed. When seen by the author the scrotum was much swollen and greatly ecchymosed, together with the perinæum. Under chloroform free incisions were made into the scrotum on each side, but no urine was obtained. A catheter was introduced into the urethra, but did not enter the bladder; a cut was then made on to the end of the catheter, and it was found to be in a large cavity which was filled by coagulated blood and some urine. The bladder was next aspirated above the pubes, twenty-three ounces of slightly turbid urine being withdrawn. The boy was then put to bed to watch events. Next day chloroform was again administered, and while in the lithotomy position an incision was made in the middle line down to the bulb of the urethra, which was found to be torn across just behind the bulb, the posterior part being quite retracted and separated for about two inches. A catheter was easily passed, drawing off some urine. A lithotomy staff was next passed along the whole extent of the urethra into the bladder, and the separated parts brought together and stitched with three silver wire sutures, passed completely through the walls of the urethra, and each tied outside in a reef knot. With the staff still in the bladder, the membranous part of the urethra was opened by an incision to allow the urine to escape, and to keep the stitched part at rest. A drainage-tube was then passed through this incision into the bladder. A fortnight later the perineal wound was closed, and all urine came through the urethra. The boy did very well, and no sign of stricture remained.

6003. *Padley on a Case of Bilocular Empyema.*—In the *Lancet*, August 1886, p. 338, Dr. Padley records an interesting case of bilocular empyema, in which he performed thoracentesis with good results. The patient was a girl, aged 18, who was seized with an acute attack of pneumonia on Dec. 18, 1885. She progressed favourably until Jan. 3, 1886, when, without any apparent reason, the temperature rose to 103° F., and continued to range from 101° to 103° for the next three weeks. From absence of breath-sounds below the scapula, with loss of vocal fremitus and respiratory movements, together with the temperature, the author diagnosed the presence of an empyema. On the evening of Jan. 24 the chest was aspirated in the seventh intercostal space, rather more than half a pint of purulent fluid being withdrawn. Next morning the patient felt much relieved, but it was evident that more pus remained somewhere. A free incision was therefore made at the site of the previous aspiration, but no more pus was obtained. The cavity was then examined with the finger, and, fluctuation being detected in the upper part, a trocar was carefully introduced, bringing away pus. The opening was then enlarged with a bistoury, when more than a pint of pus escaped. A drainage-tube being introduced, the wound was dressed with carbolic gauze. The patient made a rapid recovery.

6004. *Grimshaw on a Case of Hæmaturia followed by Retention of Urine.*—In the *Lancet*, August 1886, p. 394, Mr. Grimshaw relates the case of a man, aged 69, who consulted him on Sept. 5, 1880, on account of passing urine containing blood. He was given a mixture containing gallic acid with henbane and infusion of buchu. On the 7th and 9th the man reported himself better, but on the 10th the urine was again charged with blood, and in the evening he was unable to micturate. A No. 8 gum elastic catheter was passed, drawing off about four ounces of bloody urine, giving much relief for a little time; later on the catheter was again passed; only a teacupful of bloody fluid was drawn off, and the catheter was tied in. Next morning, the 11th, the patient was tolerably comfortable, a large quantity of blood and urine having passed through the catheter during the night, but later on no urine came, and, thinking the catheter was blocked, Mr. Grimshaw removed it. On passing fresh catheters, however, no fluid was obtained. Next day, the 12th, several unsuccessful attempts were made to empty the bladder. The condition of the patient becoming serious, it was decided to send for Mr. Cadge. Early on the morning of the 13th a clot of blood was passed, in which twelve small calculi were found. When Mr. Cadge heard the history, he diagnosed the bladder to be blocked with clotted blood, and that the catheter had pierced the clot, which was too solid to escape. A No. 10 catheter was then passed, and, by means of a stilette, the clot was cautiously broken up, and gradually forced down the catheter by gentle pressure over the bladder. After about two hours' patient manipulation, half a chamber utensil of clotted blood, mixed with ammoniacal-smelling urine, was thus drawn off. The same procedure was again resorted to in the evening, with a similar result. On the morning of the 14th the catheter was again passed, but only a little clot and thick treacly fluid came through; however, by means of Clover's catheter, with elastic suction-bottle, after first injecting a little warm water, the patient standing erect, bloody urine was discharged, amounting to more than twenty ounces. The catheter was used three times a day for the next month, after which the patient quite regained his usual health.

6005. *Andradas on Sublimate Injections in Gonorrhœal Cystitis.*—In the *Lancet*, August 1886, p. 367, attention is drawn to a case lately published by Senor Andradas, of a fisherman who had suffered the greatest agony from acute prostato-cystitis, consequent on gonorrhœa. The author tried Guyon's treatment of ejecting nitrate of silver, but it did no good; he then passed a catheter as far as the prostate, and injected forty-five grammes of a 2 per mille solution of corrosive sublimate in warm water. This the patient was compelled to retain three minutes and caused some pain during micturition, but he slept fairly well at night. Three days later another injection was given, and four days afterwards the patient was quite well, being able to retain his urine some hours; when passed, it was clear, and gave no pain whatever.

6006. *Smith on Exploration of the Bladder by Section through the Perinæum.*—In the *Lancet*, August 1886, p. 385, Professor Henry Smith draws attention to what is known as the operation of cystotomy. The author, however, objects to this term, as in the operation so named the bladder is not cut into; an incision is made through the perinæum into the membranous portion of the urethra, through which the bladder is examined, and any foreign body removed; the bladder can then be drained by means of a tube fixed in the opening, thus giving the bladder complete rest. In cases of long-standing cystitis, or where there is some growth causing irritation of the bladder, this operation is one of the most valuable aids to surgery. In cases of malignant disease of the bladder much relief can be given to the patient by thus keeping the bladder free from urine. RICHARD NEALE, M.D.

6007. *Perez on Grafts of Frogs' Skin.*—In spite of an unfavourable experience of skin-grafting in burns, &c., Professor Morales Perez tried in a case of burn of the hand the lately-recommended plan of engrafting frogs' skin. Three quadrangular grafts, 2 centimètres wide by 3 long, were first applied, medicated wool and iodoform ointment being the dressing used. After five days these grafts were found to have adhered, with the exception of two small bits. Two fresh grafts were applied in other points, and these adhered well. After some days the epidermis and the blackest green pigment of the graft dried up and was detected in fine scales, leaving a thin white cicatrix. Finally a very satisfactory elastic cicatrix was obtained, the line of the grafts being visible.

G. D'ARCY ADAMS, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

6008. JOHNSON.—The Action of Antipyrin and Thallin. (*Lancet*, August 1886, p. 386.)

6009. O'NEILL.—A Case of Actinomycosis. (*Lancet*, August 1886, p. 342.)

6010. REYHER.—On Progressive Pernicious Anæmia and Bothriocephalus Latus. (*Lancet*, August 1886, p. 362.)

6011. NAIRNE.—On Fish as an Invalid Diet. (*Lancet*, August 1886, p. 396.)

6012. BRAITHWAITE.—The Treatment of a Form of Diarrhœa in Children. (*Brit. Med. Jour.*, July, p. 107.)

6013. MILLARD.—The Treatment of a Form of Diarrhœa in Children. (*Brit. Med. Jour.*, July, p. 213.)

6014. ROTHWELL.—Sulphate of Iron in Diarrhœa. (*Brit. Med. Jour.*, August, p. 255.)

6015. HAY.—An Easy Method of Distinguishing Solutions of Carbolic Acid. (*Lancet*, August, p. 243.)

6016. SUCKLING.—Carbolic Acid in the Treatment of Whooping-cough. (*Brit. Med. Jour.*, July, p. 167.)

6017. STEAVENSON.—Sciatica treated by Galvanism. (*Lancet*, July, p. 113.)

6018. FOX, DR. G. H.—On the Value of Lanolin. (*Therapeutic Gazette*, July 15, 1886.)

6019. BOYMOND, M.—On the Use of Salol. (*Bull. Gén. de Thérap.*, Aug. 15, 1886.)

6020. BIGNON, M.—On the Toxic Properties of Cucaine. (*Bull. Gén. de Thérap.*, Aug. 15, 1886.)

6021. CURCI.—Experimental Researches on the Biological Action of Berberine. (*Annali di Chimica e de Farmacologia*, July 1886.)

6022. CURCI, A.—Researches on the Mechanism of Action of the Common Alkaline Metals and Earths. (*Annali di Chim. e di Farm.*, June 1886.)

6023. SUÑER, E.—Condurango in Gastric Catarrh. (*El Genio Med.-Quirurg.*, May 7, 1886.)

6024. BALL AND COURTADE.—Stimulation of Sensibility by Massage.

6025. GUYON.—On the Treatment of Painful Chronic Cystitis.

6026. PANAS.—On Eserine in the Treatment of Glaucoma.

6027. TENNESON.—On the Treatment of Phthisis by Ergot. (*Bull. de la Soc. Med. des Hôpitaux de Paris*, May 25, 1886.)

6028. DOYON.—On Lanoline. (*Annales de Dermatologie.*)

ART. 6008. *Johnson on the Action of Antipyrin and Thallin.*—In the *Lancet*, August 1886, p. 386, Mr. R. Johnson contributes a paper on the use of antipyrin and thallin in the treatment of acute articular rheumatism. The author conducted a series of experiments at the suggestion of Dr. Ringer, and found that antipyrin cannot claim any specific action. It brought down the fever rapidly, but had no action on the joint-affection. After the temperature is brought down by antipyrin, the other symptoms are rapidly removed by the administration of salicylate of soda. With regard to thallin, it was found that the fever was reduced by its action, but its effects were more transient than those of antipyrin, and it had no effect upon any of the other symptoms. Mr. Johnson also tried the effect of antipyrin and thallin in phthisis. Antipyrin proved most useful in lowering the temperature in many cases, the rise afterwards being very gradual; at the same time it checked the night-sweats, and in some cases improved the nutrition and general condition of the patient. Thallin lowered the temperature as a rule, but its effect is much more transient than that of antipyrin, and the temperature rises again rapidly, whilst each fall of temperature was accompanied by sweating and each rise frequently by shivering. Some observers have noted that antipyrin has a hæmostatic action in cases of hæmoptysis, but the author has had no experience of its use in this way. The various toxic effects produced by these two drugs are briefly considered. Vomiting frequently occurs after the use of antipyrin; much more rarely after thallin. In a case of phthisis marked prostration followed the use of antipyrin in three doses of ten, twenty, and twenty grains respectively; similar symptoms were observed in a boy to whom three fifteen-grain doses were given at intervals of one hour. In no case did thallin produce prostration. The slight advantages possessed by thallin in not producing such disagreeable effects are more than counterbalanced by the transient nature of its action, and there can be no doubt that as a purely symptomatic remedy antipyrin is far superior to thallin.

6009. *O'Neill on a Case of Actinomycosis.*—In the *Lancet*, August 1886, p. 342, Dr. Wm. O'Neill describes a case of actinomycosis in a farmer aged 50. In November 1885 the patient noticed a pustular eruption on the left wrist and forearm, and a slight swelling under the right ear. There were also four or five smaller swellings in the neighbourhood of the clavicles and one in the left axilla. Under the use of iodine and arsenic internally and the local application of citrine ointment the eruption had almost disappeared in a few weeks, until the patient was attacked with inflammation of the tonsils and fauces, when the swellings became much larger and some fresh ones developed. He was now ordered a mixture containing perchloride of mercury and iodide of potassium, with an ointment of iodide of ammonium. For a few weeks he again improved, but was attacked in March 1886 with severe bronchitis, and the state of the swellings became much worse. The tumour in the angle of the neck had extended in all directions; had suppurated, and two or three sinuses gave exit to a whitish purulent fluid. The general health seemed much lowered, and, being in doubt as to the nature of the case, the author sent the patient to see Mr. Barker, who diagnosed actinomycosis, and later on some of the characteristic micro-organisms were found. This disease is supposed to be communicated from animals to man, and a few weeks before the affection made its appearance the patient was 'dressing' calves affected with 'ringworm,' a disease which has not been long recognised, and is best treated by arsenic, iodine, and mercury in its early stages, whilst the removal of the enlargements with the knife is the best method to adopt when the disease is well established.

6010. *Reyher on Progressive Pernicious Anæmia and Bothriocephalus Latus.*—In the *Lancet*, August 1886, p. 362, an article alludes to an interesting paper lately written by Dr. Reyher, of Dorpat, in which an obvious and tangible cause was found in thirteen cases presenting all the appearances of pernicious anæmia, the etiological factor being bothriocephalus latus, which had taken up its abode in the alimentary canal, and which had evidently been the cause of the anæmia and accompanying state of disease, as in every case the patient soon recovered after the parasite had been expelled.

6011. *Nairne on Fish as an Invalid Diet.*—In the *Lancet*, August 1886, p. 396, Mr. Nairne gives a series of cases in which a fish diet has given rise to very serious mischief. Several cases are related in which convalescents from typhoid fever have met with a fatal relapse after partaking of some boiled fish. For some time the author excluded fish from invalid diet, as he thought it the cause of all the mischief. Lately, however, he has found that if fish be steamed it is more tender, and can be eaten with impunity.

6012. *Braithwaite on the Treatment of a Form of Diarrhœa in Children.*—In the *Brit. Med. Jour.*, July 1886, p. 107, Dr. James Braithwaite draws attention to a form of diarrhœa in children, usually occurring after weaning, and from that period to four or five years of age, which is characterised by most horribly offensive motions, due probably to the growth of the ordinary bacteria of putrefaction. It may be successfully treated by disinfecting the bowel contents by means of salicylate of iron. The following prescription is suitable for a child two years old. Sulphate of iron, ℈j.; salicylate of soda, ℈j.; glycerine, ℈iij.; water to three ounces. One teaspoonful must be given every hour for twenty-four hours—*i.e.* until the stools are well darkened; then every three or four hours with an occasional dose of castor-oil to clear the bowels well out.

6013. *Millard on the Treatment of a Form of Diarrhœa in Children.*—In the *Brit. Med. Jour.*, July 1886, p. 213, Mr. Wm. Millard, M.B., states that he finds doses of from five to ten minims of the liquor hydrargyri perchloridi every one or two hours, according to the age of the patient and the severity of the attack, one of the most successful methods of treating cases of diarrhœa in children, especially when the stools are very offensive and watery. In twelve hours or less a cure is effected.

6014. *Rothwell on Sulphate of Iron in Diarrhœa.*—In the *Brit. Med. Jour.*, August 1886, p. 255, Mr. Rothwell suggests the use of sulphate of iron in the treatment of diarrhœa in children. The author has used this drug with much success in the choleraic diarrhœa of adults, and thinks that it ought to be used for those cases of infantile diarrhœa where there are offensive stools. Should there be vomiting, it would be better to give the iron by injection.

6015. *Hay on an Easy Method of Distinguishing the Solutions of Carbolic Acid.*—In the *Lancet*, August 1886, p. 243, Dr. Matthew Hay suggests a plan for ascertaining the strength of solutions of carbolic acid if there be any doubt. The method consists in adding a saturated solution of pure crystalline sodic chloride to the preparation to be tested. If such a test be added in about equal quantity to a 5 per cent. solution of pure carbolic acid, the mixture becomes milky and opalescent, and the milkiness does not disappear on shaking. If the solution be lowered to 4·6 per cent. (1 in 21·7), the reaction is not obtained unless the temperature of the mixture is below 47° F.; if lowered to 4·5 per cent., the reaction fails unless the temperature is below 40° F. At the ordinary temperature (64° F.) the reaction is not certain unless the strength of the solution is about 4·8 per cent. (1 in 20·8).

6016. *Suckling on Carbolic Acid in the Treatment of Whooping-cough.*—In the *Brit. Med. Jour.*, July 1886, p. 167, Dr. Suckling states that he believes carbolic acid to be almost a specific for whooping-cough. The author treated twenty-three patients with glycerine of carbolic acid; twenty cases left off attending after a fortnight, three failed to obtain relief. The dose given was half a minim in peppermint water for a child one year old, increasing with the age. In 50 per cent. ulceration of the frænum was detected. [The undoubted value of carbolic acid in pertussis may be gleaned by a reference to sections 714:2 and 715:6 of the *Medical Digest* and Appendix.—*Rep.*]

6017. *Steavenson on Sciatica treated by Galvanism.*—In the *Lancet*, July 1886, p. 113, Dr. W. E. Steavenson gives a short account of sixty cases of sciatica treated by means of galvanism. In the *Lancet*, July 19, 1884, the author published a paper upon the subject, in which he described the mode of applying the current. Out of the sixty cases, thirty-seven were cured; eleven improved only; nine did not remain under treatment long enough for a certain result to be noted; two were still under treatment, and one had a return of sciatica, which was cured a second time. The number of applications needed to produce a cure was about six to eight; some few patients came twelve or fifteen times. The author concludes by stating that the favourable results obtained by him bear out the opinion given by Dr. Stone in his Lumleian Lectures.

Richard Neale, M.D.

6018. *Fox on the Value of Lanolin.*—Dr. Fox reports the results of some experiments made by him with a view of testing the alleged superiority of lanolin over lard and vaseline as a vehicle for the administration of drugs by inunction. The method employed in these experiments was to mark off on the anterior surface of the forearms of a young girl, spaces four inches by six in extent. Upon the space so marked on the right forearm fifteen grains of lard were rubbed for fifteen minutes, while the corresponding spot on the left arm was treated in the same way with lanolin. The lard is stated to have softened much more quickly under the influence of the heat of the skin and hair, and was spread much more rapidly over the surface. With as nearly an equal amount of pressure as it was possible to give, the lanolin was found to redden the skin more readily than the lard. At the expiration of the fifteen minutes the greasy matter remaining on each forearm was carefully collected by means of a spatula and weighed, with the result, according to Dr. Fox, that *ten* grains of lanolin were found to have been absorbed as against *five* of lard; the same test employed to ascertain the rates of absorption of lard and vaseline showed that with the same quantity of each (fifteen grains) 6¾ parts of lard were absorbed, but only 5½ of vaseline. Dr. Fox was unable to obtain the metallic taste claimed by Liebreich as following the inunction of a $\frac{1}{1000}$ solution of bichloride of mercury in lanolin. He did not find it as bland an agent as he had been led to suppose, and, so far, he does not consider it superior to *fresh* lard or *pure* vaseline, especially when its relatively high price is considered. The following tests for lanolin are recommended by Messrs. Jaffé and Darmstaedter (*Schweiz. Wochensch.*, p. 88, 1886). 1. Red litmus-paper should not turn blue placed over a flask in which two or three grains of lanolin are heated with ten cubic centimètres of a 30 per cent. solution of caustic soda. Lanolin should be free from ammonia. 2. Pure lanolin, heated in a capsule with five times its weight of distilled water, when melted, floats to the surface, and remains clear on cooling, whereas impure lanolin becomes spongy. 3. No glycerin should be present in the water in which lanolin has been treated upon being evaporated. 4. When kneaded with water, with exclusion of air, it should take up more than its own weight of water without becoming soapy to the touch, and when triturated in a mortar it should not slip off the pestle or spatula.

6019. *Boymond on the Use of Salol.*—This substance is a compound of salicylic acid and phenol. It is a white crystalline powder, without taste or smell, insoluble in water but soluble in alcohol. Attention was called to it as likely to possess the beneficial effects of salicylate of sodium in the treatment of acute rheumatism, without the undesirable effects of the latter drug on the stomach. Given internally, in tablets or lozenges, it reappears in the urine in its totality in the form of sulphocarbolic and salicyuric acids. Excellent results have been obtained with it in cases of articular rheumatism in doses of ten grains every six hours, and no inconvenience has followed its use when as much as two to three drachms have been given in the twenty-four hours. The urine becomes dark, just as when carbolic acid is being given. Dr. Sahli, who has used it extensively, is disposed to think it of service in the treatment of diabetes mellitus, phthisis, and in all cases where a reduction of temperature is desired. Salol is, in addition, a powerful antiseptic.

6020. *Bignon on the Toxic Properties of Cucaine.*—The results of numerous experiments on dogs and on man are as follows. 1. The drug will only produce physiological effects in doses of from six to ten grains, given at intervals of an hour in divided doses of one grain. 2. Its principal action is upon the renal secretion, which it diminishes, slowing at the same time the elimination of oxidised substances. 3. In larger doses it causes anuria and symptoms of uræmia. 4. The paralysing effect of the drug on the kidneys generally disappears in the course of two or three hours, and is followed by a diuresis which is proportional to the anuria which has preceded. 5. Cucaine is only poisonous indirectly—*i.e.* when, as a consequence of the anuria, the accumulation of the toxic constituents of the urine attains dimensions sufficient to give rise to uræmia. 6. Although the uræmic symptoms rapidly subside on the supervention of diuresis, the stimulating effect lasts much longer—about twenty-four hours.

Alfred S. Gubb.

6021. *Curci on Berberine.*—The author's experiments lead him to the following conclusions. Berberine has a paralysing action on the brain, and especially on the voluntary motor centres, and on the centre for food-appetite. It has a weak action on the sensitive centres. On the spinal cord and on the reflexes it acts late; that is, when the blood circulation is very languid, and the heart is nearly paralysed. This is in mammals. In batrachians the reflexes persist even after the arrest of the circulation. At the time it acts on the respiratory centres, at first exciting and then paralysing them. The action of berberine on the circulation is rapid and energetic; the vessels are paralysed, and the blood rushes to the periphery. The arterial pressure falls to zero; the heart beats more frequently; and the temperature falls. The vaso-motor nerves are first paralysed, and then the muscular fibres of the heart and of the vessels. In consequence of the vascular paralysis all the other functions languish, and the state of the circulatory system may be the true cause of death, in which respiration is first arrested, and immediately afterwards the heart. It has no action on the vagus, either excitant or paralysing, even in toxic doses. It causes a fall in temperature by increased dispersion of heat, in consequence of the vaso-motor paralysis, and it is not a poison of the protoplasm. Under the influence of berberine, blood remains for a longer time undecomposed, and yields oxygen with more difficulty. It relaxes the tissue of the spleen, and increases rather than diminishes the size of this organ. It increases the peristaltic action of the intestine, both by its direct local action, and by its general action after it has been taken into the blood-current; and produces at first diarrhœa and then a condition resembling dysentery. Acid urine is secreted even in the herbivori (rabbits). At times it is albuminous, and contains granular epithelial casts. The kidneys are congested, and sometimes present the signs of inflammation. Most of these conclusions were already published by the author in 1881. William R. Huggard, M.D.

6022. *Curci on the Action of the Common Alkaline Metals and Earths.*—Potassium, sodium, lithium, calcium, and magnesium form the three following pharmacological groups, according to their action in mammals. 1. The salts of potassium—muscular agents, at first stimulant, then paralysing. 2. The salts of sodium and lithium—nerve agents, causing convulsions. 3. The salts of calcium and magnesium—paralysing nerve agents. However, while they manifest these three principal types of action on the nervous and the muscular systems, they have an almost identical action on the heart and circulation. They all at first cause increase of the blood-pressure, with slowing and strengthening of the pulse, and then lowering of the blood-pressure, with quickening and weakening of the pulse, and finally paralysis of the heart. Dr. Curci finds that when the medulla oblongata, and therefore the vaso-motor centre, is destroyed, potassium, sodium, lithium, and calcium produce increased blood-pressure, with slowing and strengthening of the pulse. Magnesium has no such effect. The first four, therefore, have a peripheral, magnesium a central, action. When the peripheral vaso-motor system is paralysed by curare, sodium, calcium, and magnesium do not increase the blood-pressure, or but very slightly; while potassium and lithium, as in the normal state, markedly increase the pressure and render the pulse slower and stronger. Sodium, magnesium, and calcium therefore act on the peripheral vaso-motor nerves; while potassium and lithium act on the muscular fibre of the heart and blood-vessels. Potassium in mammals acts more rapidly and energetically on the vessel and heart muscular fibre than on the voluntary striated fibre; but, speaking generally, it acts on all voluntary and involuntary muscles, while it has no direct or manifest action on the nervous system. In the Batrachiæ, on the contrary, potassium acts first on the nervous centres and then on the peripheral nerves; afterwards on the voluntary muscles, and, lastly, on the heart. This is probably due to the low temperature of the blood in batrachians. Curci finds that when frogs and toads are kept in hot water, until their temperature equals that of a mammal, potassium acts in the same way as in warm-blooded animals. In this experiment, many times repeated, the heart was arrested before the complete abolition of reflex and voluntary movement. The excitability of the myocardium is exhausted before that of the striated muscles. In batrachians, therefore, at a low temperature the nerve-tissue is more sensitive than the cardiac muscle to the action of potass; while at a high temperature this is reversed, and the heart becomes more sensitive than the nerves—just as in mammals.

6023. *Suñer on Condurango in Gastric Catarrh.*—Condurango bark was introduced a few years since as a specific for cancer, and, like many other much vaunted remedies, soon fell into oblivion. Dr. E. Suñer, however, has lately used it a good deal in cancer of the stomach and in gastric catarrh. He gives one tablespoonful of the infusion every two hours. In all cases of cancer it relieved the pain, increased the appetite, and improved the digestion. In gastric catarrh its good effects were very evident; the appetite and digestive powers improved, and the nausea and sickness ceased; the general tone of the system at the same time improved, and the hypochondriacal symptoms disappeared.

G. D'Arcy Adams, M.D.

6024. *Ball and Courtade on Stimulation of Sensibility by Massage.*—A paper read before the Academy of Sciences deals at length with pseudo-anæsthetic conditions, masking actual sensibility which is aroused by prolonged stimulation. In locomotor ataxy, hysteria, and hemiplegia, resulting from brain lesion, this pseudo-anæsthesia is often present, and extends over a limb or one half of the body. No effect is produced on patients by rubbing for a short time, however thoroughly it may be done, but long-continued massage produces an impression which is more and more evident as it goes on. The revival of sensibility does not only last for the moment; the effect obtained may persist and even increase from day to day. It might be supposed that in apoplectic cases, after the occurrence of the accident which interrupted communication between the brain-centre and a certain part of the contiguous nerve-centre, a prolonged effort is necessary in order that the impression produced be transmitted, and thus the connection be re-established. Whatever the explanation may be the fact exists, and had already been noticed by M. Legroux. At the present time MM. Ball and Courtade are making experiments relating to this subject. There exists in some patients a latent sensibility only requiring to be aroused; so in other patients the motor power may be dormant, and to re-establish its action all that is necessary is to produce excitement by direct stimulation of the muscles. This can be done by electricity, but when properly managed massage is quite as good. M. Courtade groups his patients in three different classes. There are in the first class persons paralysed after brain apoplexy. Massage has produced truly surprising effects in these cases. In some instances the condition was recent, in others of long standing, and paralysis was in some accompanied with contracture. A man, aged 62, was attacked with apoplexy three months ago, but grew rather better, though he walked with difficulty, and the left hand was quite useless. After the application of massage, lasting half an hour, he was so much better that he could move his left hand with ease, and almost walk without a stick. Another case is that of a sculptor, who was attacked with apoplexy five years ago, and remained paralysed on the left side. After eighteen months in the hospital he left, though walking with difficulty, but was obliged to return, as the left arm, being useless, he could do no work. There was also contraction of the biceps. M. Courtade commenced by treating the upper limb by massage; the treatment was applied on four or five different occasions, spreading over a month and a half. At the present time the paralysis of five years' standing and the resulting contractions have almost entirely disappeared in the upper limb. As to the lower limb, after a single massage it appeared more contracted the next morning, but afterwards became much more flexible. In a second class are patients who have been paralysed after an attack of typhoid fever; for instance, a man, aged 21, had typhoid fever last year, and has been paraplegic ever since. He has undergone treatment by massage, combined with electricity, and the results, though not yet complete, are still very good. At the present time he can walk with the help of crutches. M. Courtade has already obtained an almost complete recovery in the case of a young woman paralysed after an attack of typhoid fever. Another woman, who had had typhoid fever when 19 years of age, was not attacked with paralysis until eighteen months later, when she was suddenly seized with apoplexy, lost consciousness, and on recovering was found to be speechless and paralysed in both legs and the right arm. Aphasia lasted six weeks, and paralysis of the right arm two years. Later on, the lower limbs suddenly regained the power of movement. Three years ago the patient recovered the power of walking, but she accidentally fell, and the two legs again became paralysed. She was from that time subject to attacks of hysteria, and presented the general aspect of a hysterical person. It is possible that hysteria is an etiological factor in the paralysis. Trophic disturbance occurred, the lower limbs became swollen to an abnormal size, no muscles were distinguishable. The feet were bent, and a painful feeling of cramp disturbed the patient's sleep. After the first treatment by massage there was a distinct improvement, which increased on each occasion. M. Courtade was careful that after the feet were stretched out they should be kept extended by an immovable apparatus. The pseudo-fat was rapidly absorbed; the legs which had remained motionless for a long time, can now be raised more than a foot above the bed, and the patient can get up and dress herself.

6025. *Guyon on the Treatment of Painful Chronic Cystitis.*—In painful chronic cystitis, Dr. Guyon adopts the following treatment. Crystallised nitrate of silver, 1 gramme; distilled water, 50 grammes. This is injected after the patient has passed urine. An explorator, with a perforated bougie—No. 12 to 14—is introduced until the sphincter is reached, and from 20 to 40 drops of the solution are injected. The necessary number of injections and the time which should elapse between administering them, varies. If the patient has not suffered longer than three or four hours after the first injection, it is repeated every other day, but if the pain continue for one or two days, it is better only to administer an injection once or twice a week, and to decrease the number of drops. This remedy succeeds very well in cystitis of a gonorrhœal origin, but should not be used in cases of cancer or tuberculoses of the bladder.

6026. *Panas on Eserine in the Treatment of Glaucoma.*—At a meeting of the Academy of Medicine, M. Panas spoke in high terms of a new therapeutic remedy suitable to some forms of glaucoma. Eserine, though one of the most active myotics, cannot always be endured, and pilocarpine in some respects is preferable, although less active. The different collyria which are used are either composed of 5 centigrammes of eserine to 5 grammes of water, or of 10 centigrammes of pilocarpine to 5 grammes of water. The improvement is very rapid, but, in order to obtain a cure, one of these collyria must be used for several months. When first used, five or six instillations should be administered in twenty-four hours, afterwards gradually decreasing the application to one or two instillations per diem. Those forms of glaucoma where this treatment has proved beneficial are precisely those where iridectomy or sclerectomy have been inefficacious.

6027. *Tenneson on the Treatment of Phthisis by Ergot.*—M. Tenneson uses in his wards from 14·2 grammes of ergotine for a sweating hypodermic injection to cure phthisis, administered half an hour before sweating sets in. After the injection an interval of one or two or three weeks must be observed. In one instance only was there failure, but the successes were very numerous. None of the usual remedies, atropine included, are as efficacious in curing sweating as ergot.

6028. *Doyon on Lanoline.*—M. Doyon, in an article in the *Annales de Dermatologie*, states that the new substance called lanoline is rapidly absorbed by the skin. After being rubbed with lanoline, the skin appears firmer and more turgescent, and at the same time the surface is almost dry, whilst with vaseline it preserves a shiny appearance, even after energetic friction. This rapid absorption, which may be shown experimentally, seems to be due to the intimate connection existing between lanoline and the fat of the epithelium. Lanoline has been shown experimentally to have no action upon healthy or unhealthy skin, but acts favourably on morbid phenomena occurring in the deep layers of the skin. Lassar has used ointments prepared with lanoline instead of vaseline or glycerine in four hundred cases of persons affected with cutaneous lesions, and has not found injurious effects in anyone of them, not even in those cases where there was great irritability of the skin. In the case of a child suffering from impetiginous eczema of the skin of the head and face, the sole use of lanoline containing salicylic acid at 2 per cent. produced cure. In cases of ulcerated impetigo, or of inflamed eczema, a salutary and prompt action has been obtained with the following ointment:—Salicylic acid, 2 grammes; lanoline, 50 grammes; zinc oxide, starch, āā, 24 grammes. In the case of a patient who had suffered for several years from a severe and rare form of pityriasis versicolor, three frictions of the following ointment sufficed to destroy the parasite:—Salicylic acid, 2 grammes; precipitate of sulphur, 10 grammes; lanoline, 100 grammes. When greater softness of the skin is desired, it is necessary to add 20 parts of lanoline to 100 of vaseline. In seborrhœa of the skin of the head, carbolic lanoline and sulphur suffice to remove furfuraceous desquamation. Lassar advises a mixture of vaseline and lanoline in equal parts, with the addition of tincture of benzoin in a rugous state of the skin. W. Vignal.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

6029. Williams, Dr. P. C.—On an Unusual Case of Post Partum Hæmorrhage. (*Obstetric Gazette*, May 1886.)

6030. Price, Dr. Joseph.—Vulvo-rectal Fistula from Violence during First Coition. (*Obstetric Gazette*, May 1886.)

6031. Brondel, Dr. A.—On a Case of Sterility from Obesity, followed by Pregnancy on a Reduction of Weight. (*Bull. Gén. de Thérap.*, April 30, 1886.)

6032. Lyot, Dr.—On a Case of Labour obstructed by Cyst of the Ovary. (*Nouvelles Archives d'Obstét. et de Gynécol.*, June 25, 1886.)

6033. Bailey and Others.—On Cases of Prolonged Gestation. (*Archives of Gynæcol.*, June 1886.)

6034. O'Hara, Dr.—On a Case of Extra-uterine Pregnancy with Rupture of the Fallopian Tube: Laparotomy. (*The Obstetric Gazette*, June 1886.)

6035. Le Pileur, Dr.—On a Case of Membranous Dysmenorrhœa in a Woman aged 46, diagnosed as an Abortion. (*Archives de Tocologie*, May 30, 1886.)

6036. Doléris and Butte.—Chemical and Experimental Observations on Eclampsia. (*Nouvelles Archives d'Obstétrique et de Gynécologie*, May 25, 1886.)

6037. Raymond, Dr. H. J.—Successful Operation for Elephantiasis Arabum of the Labia Majora. (*International Journal of the Medical Sciences*, July 1886.)

6038. Terillon.—On a Case of Disseminated Melanosis starting from the Vulva. (*Annales de Gynécologie et d'Obstétrique*, July 1886.)

6039. Green, Dr. C. M.—On the Uses of Electricity in Obstetrics, especially with reference to the induction of Premature Labour. (*Boston Med. and Surg. Jour.*, July 15, 1886.)

6040. Boulangier, Mr.—On a Case of Velamentous Insertion of the Umbilical Cord. (*Archives de Tocologie*, Aug. 15, 1886.)

6041. Kemp, Dr. E. A.—On a Case of Extra-uterine Pregnancy. (*Boston Med. and Surg. Journal*, July 15, 1886.)

6042. Sarchi, Dr. J. S.—On a Case of Rupture of the Gravid Uterus. (*Nouvelles Archives d'Obst. et de Gyn.*, July 25, 1886.)

6043. Varnier, H.—On a Case of Subperitoneal Fibroid of the Uterus causing Abortion, Recurrent Peritonitis, and Death. (*Annales de Gynécologie et d'Obstétrique*, July 1886.)

6044. Rozanoff, P. G.—Another Case of Dangerous Hæmorrhage depending upon Rupture of the Hymen sub Coitu. (*Meditz. Obozr.*, No. 10, 1886, p. 921.)

6045. Sevvoff.—On a Case of Vagina Septa and Uterus Septus. (*Meditsinsko Spisanïĕ*, No. 3, 1885, p. 147.)

6046. Vulliet.—New Method of Dilating the Uterus. (*Der Fortschritt*, April 20, 1886.)

Art. 6029. *Williams on an Unusual Case of Post Partum Hæmorrhage.*—On Feb. 1, Mrs. S., a strong, healthy, well-formed woman, was confined with her first child. The labour presented no complications, and was completed within a reasonable time under the influence of a moderate quantity of chloroform. The placenta came away entire, and the lacteal secretion was quite normal. The patient went on all right until the fifth day, when Dr. Williams was sent for to come at once, and he found the bed filled with blood and abundant hæmorrhage still taking place, the patient being almost collapsed. Two drachms of ergot had already been given by the nurse, and ice applied to the abdomen. The uterus was distended to the size of an eight months' pregnancy. A hypodermic injection of a drachm of the fluid extract of ergot was promptly given, and the uterus was emptied of the clots. Subsequently another hypodermic injection of ergot was given, and constant pressure maintained on the uterus, which had the effect of putting a stop to the hæmorrhage. The patient ultimately made a good though protracted recovery. No cause could be discovered to account for the hæmorrhage; but it was elicited that the patient had been in the habit for some weeks previously of inducing sleep by inhaling chloroform liniment, and that latterly she had used as much as eight to ten ounces every night. On the night in question, she had used the inhalation with unwonted freedom, and at one o'clock it had affected her so profoundly as to produce this alarming attack of hæmorrhage. The patient was induced to abandon the habit, and the hæmorrhage did not recur. Dr. Williams expresses himself as very pleased with the prompt and effectual action of the ergot, to the influence of which he attributes the early arrest of the hæmorrhage.

6030. *Price on a Case of Vulvo-rectal Fistula from Violence during First Coition.*—The patient, a young woman of 22, attended the gynæcological clinic of the Philadelphia Dispensary with the following history. Previously to her marriage, eighteen months ago, she had been a perfectly healthy woman. From the first attempt at sexual intercourse she dated all her trouble. The pain was so severe that she almost fainted, and the act was followed by hæmorrhage which persisted for a month, and was accompanied by the passage of fæces and flatus *per vaginam*. Every repetition of the sexual act was followed by renewed bleeding, and even at present intercourse was extremely painful. There was entire inability to retain flatus and fæces. On examination, a rent was found opening into the rectum just within the vulva, large enough to admit two fingers. Inspection showed a perfectly intact crescentic hymen, of moderate thickness, and with a small opening anteriorly. Dr. Price operated by freshening the edges of the tear, loosening the hymen from its attachment, and using it as a flap to supply the deficiency of tissue. Shotted silkworm-gut sutures were used; and the closure, after the operation, was complete and resulted in perfect union.

6031. *Brondel on Sterility from Obesity.*—The patient, a Jewess, aged 28, married eight years previously, consulted Dr. Brondel on account of her inability to become pregnant. She was extremely fat, her abdomen being very pendulous; and an enormous aggregation of adipose tissue completely hid the external genitals. On examination, the uterus and its appendages were found to be healthy. The patient was put on a rigid dietary for a period of eighteen months, in which time she lost 20 kilogrammes (44 lbs.) of weight. At the same time the menses, which before had been scanty and far between, became more frequent and abundant. Soon afterwards, she became pregnant. Sickness was troublesome for some time, but yielded to a few doses of cucaine ($\frac{1}{12}$ grain). Labour came on in due course, but the first stage was very tedious, and eventually, as the second stage was the signal for total arrest of uterine contraction, the forceps had to be applied. With a great deal of difficulty a female child was extracted, but it had two club-feet and deformed hands, together with an enormous spina bifida. The heart was still beating, though asphyxia was imminent; but, on account of the deformities, Dr. Brondel did not think it desirable to make any effort with a view to restoring animation. The difficulty in effecting delivery was due to the doubling back of the right arm behind the neck, a fact which was only diagnosed when it was seen.

6032. *Lyot on a Case of Labour obstructed by Cyst of the Ovary.*—Marie L., aged 27, a dressmaker, was unable to assign the date of her pregnancy, as menstruation had never ceased. She had already given birth to one child at 5½ months. On admission, Jan. 7, 8 a.m., a breech-presentation was diagnosed by abdominal palpation. The cervix was displaced forwards against the symphysis. Behind it was found a tumour, in the posterior *cul-de-sac*, situated in the median line, but more marked on the right side. It evidently contained liquid, but its size could not be exactly ascertained. Labour did not advance, and a discharge of meconium occurred several times. At mid-day, M. Porak punctured the tumour from the vagina with a trocar 2 mm. thick. About 400 grammes of a viscid ropy fluid came away, and the tumour could no longer be perceived. Labour then went on satisfactorily, and at half-past one delivery of a dead child took place. Convalescence took place without any unfavourable symptoms. The liquid drawn off, when analysed, proved to contain the principal elements of the bile, but no cholesterin.

6033. *Bailey and Others on Cases of Prolonged Gestation.*—Dr. Steele Bailey reports a case of gestation extending over ten months, followed by the birth of a fœtus 33 inches in length and weighing seventeen pounds. Labour was naturally very tedious, and the child died during delivery. Dr. S. K. Jackson reports a case (same journal) in which gestation extended from July 1884 to September 1885, ending in the birth of a child weighing eight pounds. Dr. Munez Rossie gives in detail the history of a case of gestation induced by a single intercourse, extending over 317 days. The child, which was delivered by the aid of forceps, was a male, measured 54 centimètres in length, and weighed 5,300 grammes (rather more than 12 pounds). It died six hours after birth.

6034. *O'Hara on a Case of Extra-uterine Pregnancy with Rupture of the Fallopian Tube.*—On September 25, 1885, Dr. O'Hara was called to see a woman who had been in good health until two hours previously, when she was seized with severe rectal tenesmus and pain in pelvis, extending down the right leg and arm. The patient, on his arrival, was collapsed, almost pulseless, with shallow respiration and cold extremities. She was the mother of three healthy children, the youngest being a year old. She had missed one menstrual period, about a week before the accident, and considered herself pregnant. The diagnosis was internal hæmorrhage, due to rupture of the Fallopian tube at the fifth week of pregnancy. Opiates and stimulants were used. The next day there were signs of reaction; and laparotomy, though discussed, was deferred. Five days later, Dr. O'Hara was enabled to make a close examination. The abdomen was greatly distended, but there was no tenderness on pressure. Resonance was general on percussion, except over the right flank. The vaginal walls were œdematous, and the anterior wall was thicker at the cervix and to the left. The cervix was moderately soft and patulous. The urine was almost black, and the temperature 99° F. Two days later, marked jaundice appeared, with occasional vomiting and purging of bile. A few days later, a swelling was noticed on both sides and in front of the cervix, with a painless sanguineous discharge, containing fragments of decidual membrane. Micturition was painful and difficult. Three weeks after the first attack a terrible flooding occurred, lasting for an hour, and followed by slight hæmorrhage, rigors, and pain. On the thirty-third day, Dr. Parish performed laparotomy. The incision was made in the median line, and the peritoneal cavity was found empty and the peritoneum normal. The exploring finger showed that the mass was external to the peritoneum, and extended upwards from the left half of the pelvis to a level with the umbilicus. Another incision was then made along the line of original selection—*i.e.* above the outer border of Poupart's ligament—by which means the mass was reached without wounding the peritoneum. The incision was large enough to admit two fingers. About a quart of coagula, fluid blood, and pus escaped. The cavity was washed out with antiseptics and the wounds closed, a drainage-tube being inserted into the abscess cavity. The patient rallied well, and there was not much discharge. A bloody discharge from the uterus, however, set in. Two weeks after the operation the uterine discharge had ceased, but free bleeding from the wound occurred. The temperature rose to 103° F., but there was no pain on pressure. Twenty-four days after the operation the patient was permitted to sit up, but fresh bleeding occurred with same symptoms as at first. As the hæmorrhage recurred, the cavity was opened up and cleaned out. An injection into the rectum escaped through the wound, but not *vice versâ.* Subsequently discharges of fæcal matter and a small gall-stone escaped from the wound. By May 1 the patient was convalescent, a small sinus alone remaining. The communication with the bowel had almost entirely closed. Menstruation had recurred. The patient's ultimate recovery was complete.

6035. *Le Pileur on a Case of Membranous Dysmenorrhœa diagnosed as an Abortion.*—The patient was a strong healthy woman, aged 46. She began to menstruate at fifteen years of age. The periods had always been regular, but were preceded by pain, which passed off with the flow. She was married at 27 years of age. The same year she became pregnant, and miscarried at four months. The pain on menstruation was not observed after this time. She had subsequently nine more pregnancies, including three miscarriages. After her last confinement (a miscarriage), the menstrual pain returned, and became very severe, obliging the patient to keep her bed during the periods. On Sept. 7, 1884, menstruation occurred at the proper date, but was less abundant than usual, and was preceded by such severe pain that in October, as she saw nothing, she welcomed the idea of a pregnancy as a relief from the intolerable suffering attending menstruation. On Nov. 2 she lost a good deal of blood, and had sharp colicky uterine pains. The patient suspected a miscarriage, although beyond the absence of menstruation no symptom of pregnancy had been observed by her. Two days later a lump of dense fleshy substance came away, which looked like a piece of placenta, and this was followed a day or two later by another piece of the size and shape of a fig. Washed in water, the membrane was seen to be triangular in shape, and was an exact cast of the interior of the uterus. It presented three openings, one at each corner; the internal surface was smooth, and all the membrane was of an uniform thickness. After the expulsion of these masses, the bleeding gradually diminished, and the pain disappeared. The patient returned to work a week later.

6036. *Dolèris and Butte on some Chemical and Experimental Researches on Eclampsia.*—Guided by the idea that the peculiar symptoms of eclampsia were caused by intoxication resulting from the presence of bodies of the nature of ptomaines, a series of observations were made with the blood of five women, subjects of eclampsia while in the obstetric wards. The following simple process was adopted, all unnecessary complications having been sedulously avoided. To the blood (about six fluid ounces) obtained by bleeding, was added twice its volume of ether, the mixture being frequently shaken. It was allowed to stand for from twenty-four to forty-eight hours and the ethereal layer carefully decanted, filtered, and finally evaporated. The residue was treated with a small quantity of water acidulated by the addition of hydrochloric acid, and after filtration the filtrate was evaporated in a watch-glass, at a temperature not exceeding 104° F. By these means a crystalline residue, of varying purity, was obtained from the blood of the first four patients examined. Under the microscope the crystals presented a long needle-like appearance, occasionally fusiform in shape with forked or slanting ends. The crystals were sometimes separate, sometimes grouped in stars or bunches. They were insoluble in water and only slightly soluble in alcohol, but were so in ether and acidulated water. Heated on platinum foil, they turned brown, but never entirely volatilised, a whitish residue remaining. Treated with a mixture of hydrochloric and sulphuric acids, they did not give a violet colour, nor was a rose or violet colour produced by iodic and sulphuric acid and bicarbonate of sodium, these being tests indicated by Selmi for certain ptomaines. From the small quantity of the crystals obtainable, no definite information could be obtained as to their actual nature. The experiment was made of injecting two rats subcutaneously with a solution (2 cubic centimètres) of the crystals. One of them, the larger of the two, showed no symptom, but the other was found dead after an attack of polyuria. Further experiments on four sparrows led to paralysis on the side of the injection, followed by somnolence and death, although the quantity injected was extremely small. The blood of four of the women (three of whom died) yielded a distinctly crystalline residue; but from that of the fifth, who recovered promptly, no such crystals could be obtained. No variations in the quantity of urea in the blood could be discovered to account in any way for the symptoms.

6037. *Raymond on a Successful Operation for Elephantiasis Arabum of the Labia Majora.*—The patient was an Indian woman, aged 28, who had lived all her life on the malarious banks of the Klamath, in California. She had had one child; but syphilis, though probable, was denied. A tumour of the labia had existed from birth, and had undergone gradual increase in size. At the date of conception, the tumour was about twice the size of the clenched fist; but, as pregnancy proceeded, the pudendal swelling increased *pari passu*, so that at the termination of pregnancy the tumour had attained its present size. She had aguish attacks, during which the tumour smarted and burned. On Dec. 4, 1885, examination showed a pendulous mass, of solid but elastic consistency, suspended by a strong pedicle, of horseshoe shape. It was not tender, and was marked behind by a deep sulcus, extending forwards from the anterior commissure of the vulva. The largest circumference of the outgrowth was thirty inches, that of the pedicle eighteen inches. On Jan. 2, 1886, the patient was anæsthetised and compression applied by means of an elastic bandage, with the result of materially increasing the size of the pedicle. An incision through the skin, nearly two feet in length, was made round the pedicle from one labium to the other. The healthy skin was then reflected and the cord tourniquet applied, just behind a couple of long needles, which were made to transfix the pedicle in order to prevent slipping. The tumour was then removed with a few strokes of the knife. Very little hæmorrhage followed on loosening the tourniquet. The flaps were then brought over the raw surface, and the wound healed almost completely in the course of a fortnight. The temperature never exceeded 101° F. The case is remarkable as occurring in a coloured woman, and from the fact that labour was not thereby impeded.

6038. *Terillon on a Case of Dissseminated Melanosis starting from the Vulva.*—The patient, aged 62, was of unsound mind, and had had for some years anæsthesia of the entire left side of the body. She complained of pain at the vulva on using the sponge for purposes of cleanliness, with slight hæmorrhage. She had lost flesh and spirits some months past, and had become subdued and listless. On the inner surface of the right labium minus was found a small tumour of the size of a walnut, hard, smooth, and of a deep black tint. The dark coloration extended to the mucous membrane beyond that proper to the tumour, and existed on the corresponding part of the opposite labium and on into the vagina, reaching even to the os uteri. No enlarged glands could be anywhere discovered. The tumour was not painful. The patient was kept under observation for two months, during which period the tumour appeared to undergo a slight increase in size. On June 28, 1885, the growth was excised, the dissection being carried well beyond it on every side; and cauterisation was then effected with the thermocautery at a red heat. The patient had quite recovered from the operation by July 15. Sections of the tumour showed an abundance of pigment-cells in the skin covering the growth, which itself was composed of rounded cells, separated by a stroma containing large and dilated vessels. Many of these cells were likewise pigmented. On Oct. 15 the patient was examined; no further growth had taken place in or near the cicatrix left by the operation. Early in November, the patient, who had lost flesh a good deal, called attention to an irregular hard swelling in the right groin. Secondary tumours now rapidly made their appearance in different parts of the body, notably in the vagina and around the urethra, which was invaded. On March 1, 1886, the entire body was œdematous, and the abdomen was distended. A violent attack of dyspnœa occurred on March 6, soon after which the patient died. Melanotic sarcoma generally commences at the extremities, but cases are on record of its beginning elsewhere. One very curious feature in this case was the extensive pigmentation of the vaginal walls, which rapidly followed the appearance of the tumour on the labia.

6039. *Green on the Uses of Electricity in Obstetrics, especially with reference to the Induction of Premature Labour.*—Dr. Green quotes a case of Walcher's in which the induction of premature labour was indicated in a multiparous woman on account of some contraction of the pelvis. In this case the constant current of ten elements was used, introducing the negative electrode into the cervix, and placing the positive pole over the fundus, each application lasting about ten minutes. Pains came on at nearly every sitting, and lasted for a varying length of time; dilatation gradually took place, and after eleven *séances* labour set in on the fifth day. The child was born dead, owing to the umbilical cord encircling the neck; and as the fœtal movements were distinctly increased during the passage of the current, it was thought possible that the position of the cord had been caused thereby. Bayer reports four other cases in which electricity was employed with fair success. Bayer's opinion on the subject was that the constant current generally awakens the pains, but the result is not always successful. He considers that frequent interruptions of the current are more likely to set up uterine contraction, especially if the muscular substance of the uterus be in good condition. Dr. Baird, of Albany, has published the results in 220 cases: this authority used the faradic current, and applied one electrode over the lumbo-sacral region and the other over the abdominal wall, taking special care never to include the head of the fœtus in the circuit. Dr. Baird believes that electricity has a very extended field of usefulness in obstetrics; in short, in any case in which it may be desirable—1. To modify the pains of labour. 2. To favour a more rapid dilatation of the os. 3. To promote more vigorous uterine contractions. 4. To add tone and strength to all the muscles engaged, and increase their power of doing work. 5. To abridge the time occupied by the labour. 6. To prevent shock, exhaustion, and *post partum* hæmorrhage. 7. To insure contraction of the uterus in cases of instrumental delivery. 8. To act as an auxiliary in the induction of premature labour. 9. To arrest hæmorrhage and accelerate labour in cases of placenta prævia. 10. To prevent an undue expenditure of nervous force, in all cases of debility from whatever cause, thus leaving the patient in a condition to secure a speedy and favourable convalescence.

6040. *Boulangier on a Case of Velamentous Insertion of the Umbilical Cord.*—The placenta in question followed a perfectly normal labour at the *Maternité* and presents the peculiarity that the umbilical cord, instead of being inserted on to the placenta, abuts on the membranes 8 centimètres from its edge. It at once divides into two branches, each composed of a vein and two arteries; these vessels subdivide dichotomously, and after a winding passage of about 20 centimètres reach the placental edge over about three-quarters of its circumference. The occurrence is very rare and has given rise to a good deal of discussion as to its cause. It is sometimes possible to diagnose it during labour by feeling the abnormal pulsation of the umbilical vessels. The risks this arrangement entails are obvious; the vessels may be compressed and so cause the death of the child or they may be lacerated and cause severe fœtal hæmorrhage; the remedy for either condition being expedition in effecting delivery.

6041. *Kemp on a Case of Extra-uterine Pregnancy.*—The patient, aged 26, had been married three months. She was healthy and fairly strong. In the afternoon of March 25 she had an attack of faintness and had to be assisted to bed; she complained of pain in the 'stomach' with symptoms of indigestion. She was given a calmative and seemed better. The next day the pain was still present and patient was very pale. Patient said she had menstruated regularly, the last period having taken place only a day or two previously. Nothing seemed to enable her to rally, and she gradually but rapidly became weaker. Dr. Kemp then sent for a Dr. Frost, but notwithstanding the patient died at 2 A.M. on the following day. At the *post mortem* examination the surface was noticed to be unusually blanched, and on opening the abdominal cavity a quantity of dark fluid blood escaped. Both iliac fossæ were full of clots, on removal of which it was found to be a case of tubal pregnancy, at about the sixth week. The remarkable circumstances connected with the case were the comparative absence of symptoms of pregnancy and the regular menstruation together with the early rupture. On examining the uterus carefully, a tumour the size of a hen's egg was seen projecting from its upper part just at its junction with the right Fallopian tube; at the upper and anterior aspect of which rupture had evidently taken place. The part of the wall towards the uterus was thicker and composed in part of uterine tissue. The interior of the tumour was filled with a shreddy mass like placental tissue. The lining membrane of the uterus was smooth, velvety, and much thickened. The walls, however, were but little increased in thickness, and the cavity was not notably enlarged.

6042. *Sarchi on a Case of Rupture of the Gravid Uterus.*—Helène S., aged 48, pregnant for the seventeenth time, was admitted into the Kochanow Hospital on Dec. 27, 1884. She was cachectic and suffered from daily pyrexial attacks. The last menstrual period was September 1883, and she first felt fœtal movements in January 1884. In May she ran a considerable distance with bare feet and this exploit was followed by shiverings and fever, abdominal pain, and slight metrorrhagia; the fœtal movements ceased two months before the calculated termination of pregnancy. A week later, a redness was noticed in the neighbourhood of the umbilicus which subsequently broke and gave exit to a bone. The opening gradually increased in size exposing other bones and the softened tissues of the decomposed fœtus. A fortnight later, fæcal matter escaped by the opening which continued to increase in size. In the month of September two small bones escaped *per anum*. The umbilico-uterine wound was now enlarged by several radiating incisions and the fœtal remains were extracted. The uterus was firmly adherent to the abdominal walls in such a way that nothing could escape into the peritoneal cavity. The os uteri allowed the passage of a finger, and a probe introduced through the cervix came out at the umbilical opening. In the cavity of the uterus there were two openings from which fæcal matter escaped, the contents of the intestines thus having exit through the anus, *viâ* the uterus and vagina and through the abdominal opening. After removing the fœtus, careful irrigation was carried out for some weeks, the uterus being plugged to prevent escape of fæces in that direction; but although the general health of the patient improved from day to day, the fistulæ continued patent. The patient ultimately decided to return home. She was seen not long since; the abdominal wound, much lessened in size, only gave exit to a liquid devoid of fæcal odour; the bowels were regular and two months ago she noticed what she took to be her period, lasting one day.

6043. *Varnier on a Case of Subperitoneal Fibroid of the Uterus.*—The patient, aged 37, a governess, was admitted on Feb. 26, 1886. Menstruation had always been irregular and painful. She married at 28 years of age, and had had two miscarriages between the second and third months of pregnancy, but without any unfavourable symptoms. She had been a widow for two years, and denied sexual intercourse since the death of her husband. She had not menstruated since December 1885. For two months past her abdomen had increased in size, and a tumour had formed which quite filled the hypogastrium and the two iliac fossæ, and extended as high as the umbilicus. She suffered from colic occasionally, together with sickness after food. Three days ago she had a violent attack of abdominal pain, and the vomiting had since then been almost continuous. On admission, her appearance was fairly good, her temperature (evening) was 39° C. (102° F.), and she suffered from hiccup and frequent vomiting of green material. The abdomen was of the size of a seven months' pregnancy. The skin was smooth and shining, and was covered with white lines. Palpation caused great pain, and with difficulty a rounded tumour, of great hardness, was made out. It was dull on percussion, and occupied part of the abdomen below the umbilicus. The tumour was fixed, and crepitation was perceptible when the hand was applied to the abdomen, all over the site of the tumour. Nothing could be detected on auscultation. The vulva and vagina were of a decidedly violet colour. On vaginal examination, the pelvis was found to be empty; the os uteri was in the middle line, but was high up, softened, and patulous. Inside the uterus the presence of a tumour was ascertained, but, on account of its being high up, no further information could be obtained. The uterus was only slightly mobile, movement being transmitted from the tumour to the cervix, but not *vice versâ*. The diagnosis was made of a fibroid tumour, probably subperitoneal, and pregnancy. The peritonitis was treated by means of absolute rest, ice-bags to the abdomen, and subcutaneous injections of morphine. The patient's condition was very serious for about eight days, when she began to recover, and was convalescent by March 5. The diagnosis was now confirmed by the obstetric surgeon, Dr. Pinard, who was asked to examine her. The patient continued to suffer more or less, and kept her bed for two months. Nothing further could be ascertained. On May 10, another attack of peritonitis declared itself; and, the next morning, labour pains supervened, and she was delivered of a fœtus weighing 800 grammes (5 lb.). On the 11th, although her temperature was normal, the pulse was 140 per minute. There had been no hæmorrhage. The abdomen was more distended than before labour, and was intensely painful when touched. Hiccup and vomiting persisted. The voice was very feeble, the eyes sunken and the face cyanosed. The extremities were cold. The lochia were normal in quantity and odour. On the 20th the pains became worse than ever, the temperature fell, and the patient died on May 21, eleven days after the miscarriage. At the necropsy, the circumference of the abdomen below the umbilicus was 95 centimètres (38 inches), and the distance from the pubes to the ensiform cartilage, 45 centimètres (18 inches). The tumour was found to be firmly adherent to the thickened and congested peritoneum, and also to the mesentery, intestines, and inferior aspect of the liver. Inflammatory exudation was abundant and general. The pedicle, which was inserted into the fundus of the uterus, was of the thickness of the thumb, and about 2 inches long. The tumour weighed 3 kilogrammes 720 grammes (8½ lbs.), and proved to be a pure fibroid in structure. Dr. Varnier suggests that, in these cases, either premature labour or laparotomy should be practised, preferably the latter.

Alfred S. Gubb.

6044. *Rozanoff on a Case of Dangerous Hæmorrhage from the Hymen after the First Coitus.*—In the *Meditz. Obozr.*, No. 10, 1886, p. 921, Dr. P. G. Rozanoff, of Zvenigorod, reports the case of a newly married peasant woman, aged 18, who was brought to the local lying-in hospital in the state of extreme acute anæmia, on the third day of incessant hæmorrhage from the hymen, which had been ruptured during the first coitus. The hymen, of a semilunar variety, presented a single but complete laceration on the left side. The bleeding, which was moderate and of a parenchymatous nature, was easily arrested by pressure with a cotton-wool plug, the patient leaving the hospital in a satisfactory state, after a three days' stay.

6045. *Sevvoff on a Case of Double Vagina and Uterus.*—In a Bulgarian periodical, published by the Varna Medical Society, and called *Meditzinsko Spisanïē* (No. 3, 1885, p. 147) Dr. Sevvoff, of the Varna Hospital, describes the case of a prostitute, aged 22, who was admitted on account of chronic cervical endometritis, and in whom, on examination, there was found a septum which began, with a semilunar edge, just above the entrance into the vagina, and divided the latter into a larger left and smaller right halves. Each vagina contained an uterine cervix. The right cervix was larger than the left, and had a normal situation, while the left one was bent towards the right side. Two uterine sounds, on their being introduced into the uteri, did not meet at any point. The right sound could be rotated freely, the left one much less so. Within a few days after her admission, the woman menstruated, the blood flowing from both of the wombs.

V. Idelson, M.D.

6046. *Vulliet on a New Method of Dilating the Uterus.*—Dr. Vulliet, professor in the Medical Faculty at Geneva, communicated at the meeting on April 6, 1886, of the Academy of Medicine in Paris, his new method of dilating the uterus, and its application in the diagnosis and treatment of uterine disorders. The following is a summary of the communication. His method (1) renders possible the direct inspection of the whole uterine cavity; (2) permits the dilatation to be continued whatever be its degree, as long as desirable and necessary; (3) affords at the same time the most efficient antiseptic dressing. Professor Vulliet dilates the uterus by plugging the cavity with iodoform tampons, which he leaves. Eight to ten pluggings, repeated every two to eight hours with gradually enlarged tampons, will on the average suffice to render visible the cavity, the patient being in the genu-pectoral position. A dilatation of sufficient degree, as to open to view the whole interior, facilitates the diagnosis and treatment of all affections of the cavity. Professor Vulliet has employed it in the treatment of cancer, of submucous and parietal fibro-myomata, and of chronic endometritis. He has obtained, within eight months, complete cicatrisation in four cases of uterine cancer, and is hopeful about these local cures. Time, however, must prove whether they be permanent. In parietal fibro-myomata, this method, without endangering the layer of tissue which separates the tumour from the cavity, permitted incisions to be made in order to transform the parietal neoplasm into an easily removable polypus of the cavity. In endometritis, the dilatation facilitates the scraping of the mucous membrane by means of the curette, and a consequent energetic topical treatment. Without pushing dilatation to its extreme possible extent, Vulliet's method will prove very useful on account of the long duration of the dilatation, and that especially in strictures and deviation of the cervical canal, and in all operations which require the repeated and frequent introduction of the finger or of larger instruments. Moreover, this method—by its very principle, the plugging with antiseptic substances—is applicable in every case in which virulent processes are evolved in the uterus—viz., puerperal, catarrhal, and blennorhœic infections. Professor Vulliet, requested by M. Léon Labbé to demonstrate his method in the Hôpital Beaujon, succeeded within twenty-four hours in dilating the uterus sufficiently to permit full inspection of the fundus. He has since frequently operated after his method for cancer of the uterus in private practice, and, by invitation, in several hospitals.

Ferd. Adalb. Junker, M.D.

PATHOLOGY.

RECENT PAPERS.

6047. Englisch.—On Abnormal Positions of the Testis outside the Abdominal Cavity. (*Wiener Klinik*, 1885.)

6048. Fränkel, A.—The Bacteria found in Cases of Cerebro-spinal Meningitis: with Remarks on Pneumonic Micrococci. (*Deutsche Med. Wochensch.*, No. 13, 1886.)

6049. Von Brunn.—A Side-light on the Question of the Transmission of Tubercle-Bacilli. (*Deutsche Med. Wochensch.*, No. 11, 1886.)

6050. Mackie.—Membranous Compound Diphtheria. (*Brit. Med. Jour.*, June, p. 1164.)

6051. Richardson.—Chilblain Circulation. (*Asclepiad*, January 1886.)

6052. Smith, Alder.—Death from Embolism of the Pulmonary Artery. (*Brit. Med. Jour.*, May, p. 823.)

6053. Pityriasis and Phthisis. (*Lancet*, May, p. 889.)

6054. Stroganoff, N.—The Comma-Microbes in a Fatal Case of Gastro-enteritis Acuta. (*Russkaia Medit-zina*, No. 1, 1885, p. 5; and No. 2, p. 28.)

6055. Arloing.—The Influence of White Light and its Constituent Rays on the Development and Properties of the Bacillus Anthracis. (*Archives de Physiologie Normale et Pathologique*, April, 1886.)

6056. Routier.—On Mammary Neuralgia.

6057. Jaccoud.—On Pyæmia after Acute Pneumonia.

6058. Vignal.—The Development of the Grey Cortical Substance in the Brain.

6059. Prevost.—On Intestinal Lesions due to the Action of Mercuric Chloride.

6060. Condorelli-Mangeri and Aradas.—On the Parasitic Etiology of Dysentery.

Art. 6047. *Englisch on Abnormal Positions of the Descended Testicle.*—Dr. J. Englisch, of Vienna, has recently examined four cases of perineal ectopia of the testicle. He divides this abnormality into three classes. The first is ectopia scroto-femoralis. The testicle is found in the fold of skin between the thigh and the scrotum, and is perfectly movable. It lies at a variable distance from the external abdominal ring. The scrotum is small, and especially ill-developed on the affected side. This is the commonest form of this kind of anomaly, and is frequently overlooked. The second variety is ectopia perinealis. The testis lies behind the scrotum, and can be felt under the skin about an inch and a half from the anus. When traumatic, the corresponding side of the scrotum is empty. When, however, the abnormality is congenital, the scrotum may be even absent on the affected side. The testis can be moved slightly, but it slips at once back into its abnormal situation. Ectopia cruralis constitutes the third class. It is rare, and may be congenital or traumatic. The testicle lies in the saphenous opening. The deformity is generally complicated with inguinal or femoral hernia. In some remarkable cases the testicle, after having descended completely into the scrotum, has been displaced, falling back into the abdominal cavity. Afterwards, it has been known to escape from that cavity through the crural canal, forming, in fact, a femoral hernia. In other cases, the testicle, after escaping from the external abdominal ring, pushes the spermatic fascia forwards and downwards, and lies apparently under the skin in the upper part of Scarpa's triangle. Again, the testicle may primarily descend through the crural canal. Dr. Englisch believes that the scroto-femoral and perineal varieties may be caused by delayed descent of the testicle, causing imperfect development of the scrotum, which remains permanently too small to lodge its natural guest. The cause of ectopia cruralis is more obscure. Perhaps it may be due to the same cause as femoral enterocele and epiplocele; or an inguinal hernia may be checked in its descent, displace the testicle sideways, and push it on to the thigh. Diagnosis of ectopia of the testicle is easy, except where hernia exists. Operative measures are not satisfactory. If the testicle be pushed into the scrotum and retained there for a time by bandages, in the case of perineal ectopia, it generally slips back into its faulty position, owing to want of room in the scrotum. As a rule, the displacement causes no ill effects; the testicle is generally well developed. Tumours and even inflammation demand operation. In crural ectopia, an attempt may be made to reduce the testicle, and then to bring it out of the abdominal cavity through the external ring. In hernia, with this complication, removal of the testicle may be necessary when herniotomy is performed. Inversio testis, or twisting of the gland on its long or short axis, may occur, and has been known to be permanent or transitory. It is of great importance in relation to any operation for hydrocele, since the testicle may be in front under these circumstances. To diagnose inversion, the relation of the vas deferens to the spermatic vessels must be carefully traced from the inguinal canal to the testicle. [In relation to the question of the descent of the testicle, and the nature of the gubernaculum, an important subject which must not be forgotten when considering ectopia cruralis, *see* 'Bramann on the Descent of the Testicle,' London Medical Record, vol. xiii., p. 89. Bramann found that the gubernaculum is never attached to the scrotum. Its fibres, at the height of its development, are inserted partly into the aponeurosis of the external oblique, partly into the spine of the os pubis. It cannot, he believed, pull the testicle into the scrotum. Again, he observed that not only is the scrotum well formed, though filled with connective tissue, at the fourth month of fœtal life, but that, later on, the prolongation of aponeurotic tissue derived from the external oblique, the spermatic fascia of anatomists, is to be found as part of the scrotal wall long before the descent of the testicle. Perhaps persistence of the cellular tissue found in the scrotum may prevent the testis from lodging in that sac.—*Rep.*] Alban Doran.

6048. *Fränkel on the Bacteria in Cerebro-spinal Meningitis; and on Pneumonic Micrococci.*—In the *Deutsche Med. Wochensch.*, No. 13, 1886, Dr. A. Fränkel summarises the chief characteristics of the schizomycetes cultivated by him from human lungs in a state of pneumonic infiltration; 1, very subtle growth, whose chief condition is a certain temperature ranging from 27° to 28° C.; 2, remarkably rapid development, after which they quickly perish; 3, comparatively short time in which they may be deprived of their pathogenic qualities at a temperature of from 41° to 42° C. The last two points are of special practical importance. Croupous pneumonia in the human subject in favourable cases comes to a crisis in a few days. Hence we may conclude that the schizomycete that causes it is short-lived, developing rapidly, particularly with high temperature. Recovery takes place apparently after the fungus has perished. A portion of the microbes may at the height of the disease lose their virulent properties, and be discharged by expectoration. Dr. Fränkel has also found the same organism in the purulent discharge in two cases of empyema after pneumonia, without any other schizomycetes being found. One of these cases terminated fatally, the other in recovery. The microbes cultivated from both cases not only exhibited the same conditions of cultivation as the pneumonia coccus, but the same pathogenic characteristics (septicæmia) in animals. Leyden has pointed out that the empyema of pneumonic subjects is distinct from that arising from other causes. The pus is more fluid, and the discharge seems to be more easily absorbed. Dr. Fränkel thinks that this is explained by the peculiarities of the organism he has discovered—viz., rapid development and speedy death. After the fungus has perished, absorption of the purulent discharge is possible, but not before. Other schizomycetes that are sometimes found in empyema, *e.g.* the *streptococcus pyogenes*, but particularly the *staphylococcus*, live much longer, and consequently the inflammation and suppuration which they cause also last longer. Dr. Fränkel has recently found his microbe in a case of meningitis with pneumonia, and has cultivated it from the purulent exudation in the pia mater. Eberth, also, in a case of pneumonia followed by meningitis, found the same cocci in the lungs and in the meningitic discharge. Three years ago Leyden published a case of cerebro-spinal meningitis, in which he had found in the discharge of the pia mater great numbers of cocci, distributed partly in an isolated form, and partly in the form of diplococci and streptococci. An artificial cultivation did not succeed; it was impossible to determine to which class the micrococci belonged, but Leyden believes them to have been different from the micrococci of pneumonia. It thus seems as if meningitis may be produced by different organisms, according as it is the secondary or the primary disease. In a puerperal case in which there was cerebral meningitis, Fränkel found in the purulent exudation of the pia mater the same streptococci as in the inflammatory peritoneal fluid. Hence it is probable that the micrococcus of pneumonia may cause meningitis by metastasis; but this requires proof. Some cases of complication of meningitis with pneumonia may occur, in which it is impossible to determine which has been the primary affection.

6049. *Brunn on the Transmission of Tubercle-Bacilli.*—The following is the gist of a paper contributed to the *Deutsche Med. Wochensch.* by Dr. von Brunn, of San Remo. Since Veraguth directly proved that tubercle-bacilli enter the lungs through breathing, and then multiply, and that typical tubercle-centres are formed round the generating bacilli; and since Koch has succeeded in producing in animals actual tuberculosis by the inhalation of artificially cultivated tubercle-bacilli, there can be no doubt concerning the entrance of the virus during inspiration. Hence we may conclude that persons with hitherto intact lungs may be infected with the disease through close and continued communication with patients suffering from the disease, particularly if the sick room be badly ventilated, the bacilli being transmitted from one to the other, either directly, or through the medium of the tainted atmosphere. The mere entrance of tubercle-bacilli, however, does not suffice to render the respiratory organs tubercular, for the fungus cannot attach itself to healthy and physiologically normal tissue; it rather perishes on contact with such. To be able to establish itself and multiply, it must find its 'proper medium'; that is, presumably, a respiratory tissue chemically or vitally changed, and, perhaps, impregnated with certain substances necessary to the life of the fungus, and this in persons with either a hereditary taint or a cachectic development. Above all, pre-existing inflammatory processes in the lungs are favourable to the reception of the virus. Biedert and Siegel assert on the strength of their experiments that in every case a necessary condition for the settling of the bacilli is pre-existing infiltration of the lung. A new question, in Dr. von Brunn's opinion, is this: whether, on the other hand, this infiltration process may not by its histological diathesis, or its location, either further or retard the proliferation of the bacillus. This view seems to be supported by the following case. An elderly lady, suffering from chronic pneumonia, and thus presumably particularly disposed to the reception of the bacilli, was for months in close contact with her son, who suffered from progressive bacillary phthisis before he died; and yet, as was shown by the regular examination of the sputum, her own condition did not assume a bacillary character. As, in some isolated cases in which during life no trace of tubercle-bacilli has been found in the sputum, great numbers of these organisms have been discovered in the lung-tissue after death, it is not absolutely certain that no bacillus existed in the diseased lung-tissue of this lady; yet it is more than probable that in her the infiltrative process had not become bacillary. Hence it may be assumed that, though the bacilli must have been plentifully inhaled by her, they did not find their 'proper medium;' and therefore, either that, even in the infiltrated tissue of her lungs, the elements necessary to the development of the fungi were wanting, or, perhaps, that the location of the infiltration process and the mechanical conditions consequent thereon, hindered the bacilli from establishing themselves there. JOHN ELLIOTT.

6050. *Mackie on Membranous Compound Diphtheria.*—In the *Brit. Med. Jour.*, June 1886, p. 1164, Dr. W. J. Mackie relates a case of a membrane appearing on the glans penis, which he compares with a similar case related by Dr. Leslie Phillips in the *Journal* of June 5. Dr. Mackie circumcised a child, and next day found a membrane having the appearance of a thick yellowish white paper, extending over the mucous membrane in the region of the frænum. This exudation seemed identical with that of croup, in being easily detached, and involving only the epithelium, and not the subepithelial tissue as in diphtheria. Dr. Phillips has reported a similar case which he considered diphtheritic, as he had performed tracheotomy with the instruments used in the circumcision. Dr. Mackie, however, draws attention to the marked asthenic symptoms of diphtheria and the sthenic reaction of membranous croup.

6051. *Richardson on Chilblain Circulation.*—In the *Asclepiad*, January 1886, Dr. B. W. Richardson contributes a clinical study on the subject of chilblain circulation. In order to indicate clearly the conditions to which the author applies this term, he cites three typical cases, one occurring in a man aged 45, one in a girl aged 17, and one in a lady aged 47. Chilblains are evidence of a shortened and, in many cases, of an abortive peripheral circulation. The most striking characteristic is a feeble or languid circulation in the extremities, with a natural, or with an over-active, or too powerful heart; a heart natural at the beginning of life, but becoming more powerful during life from the resistance it has to overcome in its shortened circulation. There are present as a rule many of the following objective signs: the eyeball is small; the lobe of the ear is small or absent; the hair is scanty and delicate; the teeth are small, if not irregular or defective; the hands small, as well as cold, and wanting in strong grip; the feet small, and the tread dainty or infirm; the manner nervous or irritable; the stature either of medium height and broad, or very tall. As regards treatment, the author advises exercise of the limbs—*i.e.* such exercise as dumb-bells, working a treadle or harmonium with the feet; in fact, all exercise that brings into play the hands and feet without causing fatigue, and without imposing too much labour upon the heart. Good warm clothing is essential. Excessive bodily and mental strain are most injurious. Smoking is bad, and so is the regular use of alcohol; but in cases where sleep is wanting, a small dose of alcohol does good, and in some cases digitalis is needed. The best treatment, however, is careful attention to the general rules of healthy life.

6052. *Smith on a Case of Death from Embolism of the Pulmonary Artery.*—In the *Brit. Med. Jour.*, May 1886, p. 823, Dr. Alder Smith contributes the following case. A man fell down in the street, and a policeman, supposing he had fainted, took him to a hotel close by. When first seen by the policeman the patient was able to speak; but when seen by the author, about ten minutes later, he was gasping for breath, with a livid countenance and extremely rapid pulse. He became very restless, and died in a few minutes, extremely livid. At the necropsy there was found a clot of blood about two inches long in the right branch of the pulmonary artery. The end furthest from the heart was formed by a yellow embolus about the size of a pea; attached to this was a recent clot, which had evidently formed during the few minutes the deceased lived after the seizure. On the left knee there was a very tight knee-cap. The man's wife stated that he had complained of pain in the left leg some days before his death. The author states that no doubt the embolus came from a vein in the left leg, and that the tight knee-cap caused the trouble.

6053. *Pityriasis and Phthisis.*—In the *Lancet*, May 1886, p. 889, an article alludes to the recent researches of MM. Duguet and Héricourt on the connection between the mycelium of pityriasis versicolor and the mycelial threads found in the expectoration of patients suffering from tuberculosis. These observers have cultivated the microsporon furfur, and then injected it into guinea-pigs and rabbits; every animal thus treated became the subject of tuberculosis, and the same result was obtained by insufflation into the trachea of the crusts of pityriasis. Moreover, the cultures of microsporon furfur, of tubercle produced from the fungus, and those from tubercles of man, are precisely the same in character. RICHARD NEALE, M.D.

6054. *Stroganoff on the Comma-shaped Microbes in Cholera Nostras.*—In the *Russkaia Meditsina*, Nos. 1 and 2, 1885, p. 5, Dr. N. Stroganoff, pathologo-anatomist to the Odessa Town Hospital, records the case of a peasant, aged 25, who, having eaten ten apples, fell ill with obstinate severe diarrhœa and vomiting, and on the fifth day was brought to the hospital in collapse, with cyanosis of the face and limbs, and moderate distension and tenderness of the belly. On the sixth day the man became unconscious, and delirious; the pulse almost remained imperceptible, and cyanosis deep, in spite of ether injections, but the diarrhœa ceased, and vomiting lessened. On the seventh day he died. At the *post mortem* examination, there were found intense hyperæmia of the skull, meninges, and brain, some extravasation in the pericardium, some flabbiness of the heart, acute diffuse parenchymatous inflammation of the spleen, liver, and kidneys, swelling and softening of the mucous membrane of the small bowel, extravasation in the mucous membrane both of the large and small intestines, enlargement and softening of the solitary follicles and mesenteric glands, and inspissation of blood all over the body. No micro-organisms were detected, either in the intestinal contents, or in the intestinal wall. But the enlarged mesenteric glands contained large numbers of rod-shaped, more or less curved, microbes of various sizes and kinds; some were comma-shaped, others semicircular, again others S-shaped. They lay either isolated, or chained, or irregularly grouped. Unluckily, no attempt at isolation and fractional cultivation was made. Still, Dr. Stroganoff is inclined to regard the microbes as Finkler and Prior's bacillus of cholera nostras. According to his hypothesis, some of the microbes, which, early in the case, were present in the intestinal canal, and which caused the disease, made their way into the mesenteric glands, and found there a good 'sterilised cultivation apparatus;' there they freely grew, and at the same time produced a poisonous substance which could easily penetrate into the organism, and thus cause a poisoning with a fatal issue. [Dr. Stroganoff's ingenious hypothesis is too hypothetical. In the absence of any experiments with pure cultivation, it is impossible to say whether he had to deal really with Finkler's and Prior's rods or not. Then it yet remains to be proved that Finkler's and Prior's rods produce a ptomaine. Possibly they do; but as possibly they do not; at all events, Professor Poehl's experiments point in the latter direction.—*Rep.*] V. IDELSON, M.D.

6055. *Arloing on the Influence of White Light and its Constituent Rays on the Development and Properties of the Bacillus Anthracis.*—In an article on the above subject (*Archives de Physiologie Normale et Pathologique*, April, 1886) the author arrives at the following conclusions. Gas-light is slightly injurious to the growth of bacillus anthracis. Summer sunlight rapidly suppresses the development of the spores of the bacillus anthracis, if its rays penetrate into the fluid which holds them in suspension. Summer sunlight gradually lessens the vegetability of the mycelium, and can transform the cultivations as effectually as heat. These results are effected by all the rays combined, and not by one of its constituent rays. The results are in proportion to the intensity of the rays and the transparency of the medium. Light has an important biological effect on the life of the infinitely small, and is probably a factor in the attenuation of several viruses, if not all.

6056. *Routier on Mammary Neuralgia.*—At a recent meeting of the Paris Surgical Society M. Routier read notes on a case of intense mammary neuralgia; the patient was 22 years of age. A small tumour, of the size of a nut, was removed, and the pains completely disappeared. On microscopic examination, the tumour presented the characteristics of a polyadenoma.

6057. *Jaccoud on Pyæmia after Acute Pneumonia.*—At a recent meeting of the Académie des

Sciences, M. Jaccoud read an interesting note on the subject of blood-poisoning consecutive to pneumonia of the ordinary acute form, not traumatic. He has observed the two following cases. Both patients were in perfect health, when they were attacked with acute pneumonia. The illness observed the usual course, but after defervescence the local pathological condition was not thoroughly repaired; a limited area of lung-tissue presented the lesions characteristic of pneumonia. Finally, the patients died after exhibiting the symptoms of blood-poisoning. In one of the patients, these symptoms appeared eleven days after defervescence. The temperature then rose to 40° C. (104° F.), and a purulent effusion appeared in the right knee. At the necropsy there was entire hepatisation of the right lung, which presented several purulent areas. On the tricuspid and mitral valves there was fungoid growth, presenting bleeding surfaces; the kidneys presented miliary abscesses, and the right knee suppurative arthritis, and there was also a purulent effusion along the posterior surface of the brachialis anticus. Dr. Netter observed in the suppurated lung-tissue the two fundamental forms of pyogenic microbes, the streptococcus and the staphylococcus, also the pneumonococci of Friedländer. These microbes were also observed in the purulent effusions, which were independent of the lungs. A mouse and a guinea-pig were inoculated with the pus taken from the patient's right knee twelve hours before death. The animals thus inoculated died twenty-four hours subsequently, and presented multiple suppurations. The illness and necropsy of the second patient, as well as the bacteriological investigation, furnished the same data.

6058. *Vignal on the Development of the Grey Cortical Substance in the Brain.*—At a recent meeting of the Académie des Sciences, M. Vignal presented a note on the development of the grey cortical substance of the cerebral convolutions. The elements of the cortical substance of the brain are, like those of the spinal cord, solely derived from the ectoderm; at the commencement of gestation, they resemble the embryonic grey substance of the cord. Since Kölliker's researches, it is generally known that the primitive layer rapidly divides into two layers; one inner, an epithelial layer, limits the fourth ventricle; the second layer forms the grey cortical substance of the brain; between these two layers appears the white substance emanating from the outer layer. As soon as the outer layer appears, the cells of the inner layer lose their epithelial character; they present a large nucleus surrounded by a granular protoplasm, from which proceed a number of prolongations lying close together. These non-differentiated cells begin to be differentiated towards the middle of the sixth month; the first nerve-cells that appear are those which form the lower portion of the third Meynert's layer (the layer of the large pyramidal cortical corpuscles). In the course of the seventh month the nerve-cells of the fourth layer appear, in the eighth month those of the second and fifth layers. The first Meynert's layer consists of fine nerve-tubes (Exner); it appears at the sixth week simultaneously with the white substance. At the ninth month the five Meynert's layers can be easily recognised, although the greater proportion of the cells differ considerably from those in adults. The neuroglia-cells appear at the eighth month. Comparing the development of the grey cerebral substance with that of the grey substance of the cord, M. Vignal remarks that the former is not so early as the latter; the medullary cells begin to appear in the twelfth week of gestation, the cerebral cells in the twenty-eighth week.

6059. *Prévost on Intestinal Lesions due to the Action of Mercuric Chloride.*—Since corrosive sublimate (mercuric chloride) has been so generally used in surgery and especially obstetric practice, the attention of medical men has been attracted to the different intestinal lesions which have fallen under their notice. A collection of clinical notes demonstrates that mercuric chloride can produce deep lesions in the large intestines. Complete clinical facts may be interpreted in different ways, and have therefore not furnished convincing proofs. Some authors suppose that in cases of parturition the visceral lesions are due to the septic condition existing in the patient, and that the salt of mercury is not a factor. Experimental data, especially those obtained by Prévost's experiments described in the *Revue Méd. de la Suisse Romande*, 1882, p. 553, indicate that visceral lesions often result from the effect of corrosive sublimate. Similar lesions to these observed in patients were experimentally provoked in animals; ecchymosis and hæmorrhage were observed, but neither gangrene nor ulceration. MM. Charrin and Roger used an aqueous solution of corrosive sublimate at 1 per 1,000 and 1 per 4,000, which was injected under the skin or into the veins; this last method requires smaller doses. After injecting 2 milligrammes under the skin of a guinea-pig, weighing 500 grammes, several ulcerated areas were observed; an injection of 5 milligrammes given in the course of eighteen days, or 3 milligrammes in six days were powerless; these animals experimented on by MM. Charrin and Roger did not present during lifetime any important symptoms of intestinal lesion; they grew thinner, had albuminuria, but rarely diarrhœa, and never intestinal hæmorrhage. When the dose of mercuric chloride was weak, the animals did not succumb to it; they were killed at successive periods in order to follow the evolution of the lesions; it was observed that these were localised in the large intestines, and especially in the ascending colon and cæcum. Sometimes the ileo-cæcal valve and the terminating portion of the ileum were attacked. The earliest lesion consists of small spots of hæmorrhage dotted about on the intestinal mucous membrane of the peritoneum, the omentum on the outer surface of the kidneys, and especially in the pulmonary tissue. At a later stage these spots of hæmorrhage become small ecchymoses, presenting the aspect of lines parallel to the axis of the intestines, varying in length from three to four centimètres; later on, ecchymosis is more extended, and the central portions slough away; a black eschar is formed, which gradually falls off and leaves an ulcerated spot; contiguous portions of peritoneum sometimes present inflammation. Intestinal perforation has never been observed by these investigators. The principal lesion which occurs consequent on administering corrosive sublimate is apparently intestinal hæmorrhage which causes the intestinal mucous membrane to become slightly swollen, and thus disables it as a factor in the process of nutrition. This hypothesis is verified by microscopical examination, which revealed the presence of spots of hæmorrhage in the areolar tissue; the mucous membrane becomes detached and sphacelous without any glandular change taking place, as might be supposed would result from the elimination of the poison. These facts in experimental physiology, applied to human patients, indicate that a dose of 24 centigrammes of corrosive sublimate is necessary to produce intestinal ulceration in a man of 60 kilogrammes or 60 centigrammes given in the course of five days, but the result is not constant unless the sublimate is given in hypodermic or venous injections. It remains also to be proved that the human susceptibility to the influence of this substance is the same as that of the lower animals, and some clinical facts suggest that smaller doses of corrosive sublimate act on the human subject and provoke intestinal lesions; nevertheless, MM. Charrin and Roger do not consider that the possibility of these accidents ought to be urged as a reason for proscribing the use of corrosive sublimate as an antiseptic agent.

6060. *Condorelli-Mangeri and Aradas on the Parasitic Etiology of Dysentery.*—A serious form of dysentery broke out at Catania in June last year, and MM. Condorelli-Mangeri and Aradas made microscopic researches with a view to discover the cause of the disease. Careful analysis and various experiments on guinea-pigs led them to the conclusion that this particular form of dysentery was occasioned by the presence of a bacillus not yet described, which they had constantly met with in the fæces of dead bodies, and in the air of hospital wards occupied by dysenteric patients. This bacillus was also found in wells, from which water had been taken for cooking and drinking purposes by the sufferers in the neighbourhood of Catania. This morbid element, when cultivated, presented globulous groups of a yellowish-white colour, which were constituted by small cords. Under the microscope these groups resembled a long chain, formed by filaments of this bacillus. W. Vignal.

PHYSIOLOGY.

RECENT PAPERS.

6061. Fubini and Giuffre.—Rapidity of Absorption of Red Blood-corpuscles in the Broncho-pulmonary Region. (*Gazz. degli Ospitali*, Sept. 27, 1885; *Gazz. del Clin.*, July 1885.)

6062. Richardson.—Standard Pulse-Readings. (*Asclepiad*, July, p. 193.)

6063. Bleuler and Lehmann.—Normal Changes in the Pulse during the Day. (*Centralbl. für Klin. Med.*, Dec. 5, 1885.)

6064. Dubois.—On the Action of Anæsthetics on Living Tissues.

6065. Bardet.—On the Physiological effect of Piliganine.

6066. Reichmann.—On Digestion of Milk. (*Archiv für Klinische Medicin.*)

6067. Donaldson, Dr. J.—On the Function of the Recurrent Laryngeal Nerve. (*International Journal of the Medical Sciences*, July 1886.)

6068. Gladysheva-Gladüshenko, N. V.—On the Epithelium of the Human Amnion. (*Meditz. Pribavl. k'Morskomü Sbornikü*, February 1886, pp. 133–43.)

6069. Bizzozero and Sanquirico.—The Fate of Red Corpuscles in the Transfusion of Defibrinated Blood. (*Giornale Internazionale delle Scienze Mediche*, Fasc. iv., 1886; *Arch. per le Scienze Med.*, vol. ix., Fasc. 3.)

6070. Mosso, U.—Influence of the Nervous System on the Animal Temperature. (*Giorn. della R. Accad. di Med. di Torino*, 1885; and *Rev. di Chir. e di Farmacol.*, June, 1886.)

Art. 6061. *Fubini and Giuffre on the Absorption of Red Blood-corpuscles in the Respiratory Tract.*—The researches of the authors upon numerous animals were made in the following manner. The heart of a frog or of a toad was laid bare, and a wound was made in the apex. As the blood issued, it was received in a 0·75 per cent. solution of chloride of sodium, the proportion being 20 parts of blood to 80 parts of the saline solution. This mixture, after being strained, was slowly injected into the trachea of a guinea-pig or of a rat. After the lapse of from five to fifteen minutes, the animal was killed by destroying the medulla oblongata. The chest was speedily opened, and the afferent and efferent vessels of the heart tied. The heart was then removed, and its external surface carefully and repeatedly washed with the saline solution. The organ was then opened and its contents examined. Even in the observations made within five minutes of the tracheal injection, some batrachian red blood-corpuscles were found in the midst of the innumerable corpuscles proper to the animal itself. In like manner, the blood of the rat or of the guinea-pig was injected into the trachea of the frog or toad. From five to seven minutes afterwards the animal was killed, and corpuscles belonging to the mammalian animals were always found. The authors hope that these facts may serve as the basis of a new method of transfusion. William R. Huggard, M.D.

6062. *Richardson on Standard Pulse-Readings.*—In the *Asclepiad*, July 1885, p. 193, Dr. B. W. Richardson describes his improved sphygmograph, adapted from Dr. Dudgeon's elegant little instrument. The improvements consist in a different method of applying pressure upon the pulse, and a registration of the reading, so that a natural standard may be obtained, and all unnatural conditions may be compared with it. The smooth circular rod of Dudgeon's instrument, which carries the carbonised paper, is replaced by a revolving bar set with a row of sharp edges, which, in revolving on the carbon, cut a series of lines of equal distance from each other along the whole length of the paper. These leave on the paper ten horizontal spaces, each two millimètres apart. At the same time the sharp blades are divided transversely, so as to cut also a series of vertical dotted lines, each two millimètres apart. By this means, the author has found that the standard reading for a healthy pulse has an upright line of precisely the same length as the horizontal distance between each beat of the pulse, and that from the first point of impulse to the last point of movement is a square of four and a half spaces, or nine millimètres. Richard Neale, M.D.

6063. *Bleuler and Lehmann on Normal Changes in the Pulse.*—The *Centralbl. für Klin. Med.* for Dec. 5, 1885, contains an account of experiments which Bleuler and Lehmann have made upon themselves for the purpose of observing the normal changes in the pulse during the day, under the various circumstances of daily life. The experiments were begun in the morning, in the recumbent posture, and all possible modifying conditions were carefully noted. They ascertained that the drinking of warm water or tea increases the frequency of the pulse, while cold drinks diminish it. The frequency is also increased by greater covering of the skin, and diminished by want of warmth, the difference amounting to ten or fourteen beats in the minute, and lasting from thirty to forty minutes. No change occurred in the pulse during a fast of twenty-four hours in a recumbent posture in bed, showing that no change takes place at different periods of the day, apart from meal-times. Light reading diminished the frequency somewhat, and the writers suggest that this slowing of the pulse may be the reason why light reading often induces sleep. Slight sensations of burning and pressure in the stomach and bowels, and especially a feeling of tension in the rectum, increased the pulse; but, apart from those feelings, a simple cold meal had no influence whatever. ALICE KER, M.D.

6064. *Dubois on the Action of Anæsthetics on Living Tissues.*—At a recent meeting of the Académie des Sciences, M. Marey presented a work by M. Raphael Dubois concerning the action of anæsthetics on living tissues. Claude Bernard believed it to be that of coagulation. M. Dubois's researches lead him to suppose it to be that of dehydration; the tissues are dehydrated by substituting the anæsthetising vapour for water. When plants are exposed to ether or chloroform, water-vapour escapes from their surface, which evidently injures their vitality. M. Dubois considers that this fact explains why seed which is moist, and is submitted to etherisation, does not germinate, whereas dry seed submitted to the same influence does do so.

6065. *Bardet on the Physiological Effect of Piliganine.*—Piliganine is an alkaloid present in lycopodium saururus, commonly known as piligan or pilijan. Dr. Bardet, *chef* of the therapeutical laboratory of the Cochin Hospital, tested the effect of an infusion of piligan, and observed that it acted as an energetic vomitive and produced general symptoms which indicated that it is not a suitable therapeutic agent. A chemical examination proved that this plant contained a special kind of resin and an alkaloid which M. Bardet calls piliganine. This alkaloid was isolated by M. Adrian, who gave M. Bardet two grammes of chlorhydrate of piliganine. This investigator made experiments with it on a dog, rabbit, and frog, and concluded from the resulting phenomena that piliganine acts as a poison, and that its influence is principally exercised on the nerve-centres, the medulla oblongata, and the pneumogastric nerves. W. VIGNAL.

6066. *Reichmann on Digestion of Milk.*—Dr. Reichmann has made some valuable researches on the digestion of milk. The milk drunk by a healthy young man, 20 years of age, was subjected to an examination in the various stages of its digestion, and tested for acids, peptones, and parapeptones. Reichmann came to the following conclusions. 1. Three hundred cubic centimètres of raw milk leave the stomach four hours after its ingestion. 2. The actual process of its digestion lasts but three hours. 3. The coagulation of milk takes place five minutes after its ingestion. 4. This coagulation is not caused by an increase in the quantity of acidity, but by the influence of another agent, probably Hammersten's ferment. 5. The maximum of acidity—viz., 0·34 per cent., occurred in all experiments but twice, once after the lapse of forty-five minutes, and the second time after one hour and fifteen minutes. 6. The contents of the stomach attain the maximum of its medium acidity—viz., 0·32 per cent., in one hour and fifteen minutes. 7. The acidity of the contents of the stomach depends at first solely upon lactic acid, later upon lactic acid and hydrochloric acid together. 8. Hydrochloric acid presents itself in larger quantities after the lapse of forty-five minutes. 9. The acidity of the gastric contents increases gradually during the first hour and fifteen minutes, and then gradually decreases until the milk has wholly left the stomach. 10. The maximum quantity of peptone occurs at the period between thirty minutes and two hours after the ingestion of milk. Before and after this period, peptone occurs only in traces. Parapeptone shows in the beginning of the process of digestion the opposite behaviour. Experiments made on the same individual with boiled milk led Reichmann to the following conclusions. 1. After the ingestion of 300 cubic centimètres of boiled milk, the sour contents leave the stomach in three hours. 2. The actual duration of this digestion lasts two hours and thirty minutes. 3. As to the nature of the acids in the gastric contents, the degree of acidity and its variations, no appreciable differences could be ascertained between the behaviour of raw and of boiled milk. 4. In the digestion of boiled milk, a more energetic peptonisation occurs sooner than in the digestion of raw milk. 5. The caseine clots are much smaller in boiled than in raw milk. 6. The duration of digestion is shorter, and the disappearance of the sour contents from the stomach occurs sooner in boiled than in raw milk. 7. After the ingestion of 100 cubic centimètres of boiled milk, the sour contents leave the stomach in two hours. 8. The duration of its actual digestion is only forty-five minutes. 9. After the ingestion of 25 cubic centimètres of boiled milk, the sour contents leave the stomach in two hours. 10. The duration of digestion of 25 cubic centimètres of boiled milk is only forty-five minutes. 11. After the ingestion of smaller quantities of milk, hydrochloric acid can be found much sooner in the stomach with the aid of ordinary reactions. Finally, Reichmann experimented also with alkalised milk, in order to study the action of alkalies on the digestion of milk. All results obtained on the young man experimented upon were later confirmed by researches on nine other healthy persons.

6067. *Donaldson on the Function of the Recurrent Laryngeal Nerve.*—The intrinsic muscles of the larynx, both abductors and adductors (with the exception of the crico-thyroid muscle), are innervated by the recurrent laryngeal nerve; and the questions arise, as to how and under what circumstances the constrictor or respiratory function of this nerve asserts itself; how these functions are to be distinguished; whence they come, and whether the origin of the different nerve-filaments is as different as their function. Dr. Hooper, of Boston, in an article published in 1885 on 'The Respiratory Function of the Human Larynx from Experimental Studies,' asserted that contraction of the laryngeal muscles and constriction of the larynx followed stimulation of the recurrent laryngeal nerves, so long as consciousness was preserved; but that it was no longer produced when narcosis was induced, but, on the contrary, abduction resulted. These experiments were performed on dogs, which were etherised; the mouth being opened, and the tongue drawn out. On proceeding to repeat the experiments of Dr. Hooper, it was found that in the first five, under no condition was abduction of either or both vocal cords obtained, except, of course, when the branch of the recurrent nerve going to the posterior arytenoid itself was stimulated. Adduction of the arytenoid was obtained, however deeply the animal was anæsthetised, in all five experiments. This result followed stimulation of the cut and uncut nerve. Dr. Donaldson concludes, therefore, that the constrictor muscles of the larynx do not cease to act during profound narcosis, or during suspension of consciousness from any cause. Further observations, however, elicited the fact that abduction of the cords takes place with weak stimulation, no matter what the condition of the animal may be.

Alfred S. Gubb.

6068. *Gladysheva-Gladüshenko on the Epithelium of the Amnion.*—Dr. N. V. G. Gladüshenko, of the Kalinkovsky Marine Hospital, has microscopically examined (*Meditz. Pribavl. k'Morskomü Sbornikü*, February 1886, p. 133), under the guidance of Dr. N. V. Uskoff, the fresh amnia from thirty-four cases of normal labour, to study the structure of the epithelium of that fœtal membrane which, as she is inclined to believe, takes a prominent part in nutrition of the intra-uterine fœtus. The outcome of her researches is this. 1. There are invariably present three varieties of the epithelial cells in three different situations—(*a*) the cells covering the non-placental part of the amnion: they are low-cylindrical, or even may be described as a 'thick,'flat epithelium,' and consist of a nucleus and granular protoplasm, the latter often containing fatty droplets of various sizes. As a rule, those fat infiltrated cells are grouped together, forming elongated, irregularly delineated areas. (*b*) The cells covering the peripheral regions of the placenta: they are high-cylindrical, somewhat smaller than the former, and also contain a nucleus and granular protoplasm, but fatty infiltration in them is comparatively very scanty (no drops); and (*c*) the cells covering the centre of the placenta (near the umbilical cord): they are multangular and elongated, here and there not unlike epidermoid cells, lying in heaplets, in several layers; fatty infiltration is almost absent. 2. In all parts of the amnion, but especially in the part covering the periphery of the placenta, there are colourless, homogeneous, glassy, roundish bodies, varying in size from that of one to four epithelial cells. They are products of a true hyaline degeneration of the protoplasm of one or several adjoining cells. The hyaline spheres are found in all healthy amnia. 3. The liquor amnii contains glycogen, judging from a characteristic discoloration produced by iodine. The epithelium of the amnion does not contain glycogen.

V. Idelson, M.D.

6069. *Bizzozero and Sanquirico on the Fate of the Red Corpuscles in Transfused Blood.* — The authors call to mind by whom and why the injection of saline solutions has been preferred to the transfusion of blood. Hayem in the first instance held that the transfusion of defibrinated blood might be followed by evil results in determining the dissolution of the blood-corpuscles. Later, Von Ott declared that even with the use of non-defibrinated blood the same result occurred. Finally, Bergmann recently confirmed these facts, and, saying that even in the most severe cases of anæmia there is always a sufficient number of corpuscles in the organism, concluded that transfusion serves merely to introduce a liquid whereby the vessels are filled and the movements of the heart are stimulated. By means of a double series of experiments the authors contest these opinions as erroneous, and they seek to restore blood-transfusions to a place of honour. In one series of experiments carried out upon dogs, the proportion of blood-corpuscles having been determined and the quantity of hæmoglobin having been estimated, the authors succeeded in showing that by replacing a considerable quantity (200 to 300 grammes) of the blood of one animal by a considerable quantity of the blood of another, no noteworthy modifications in the constitution of the blood so mixed are to be observed, and the animals suffer little or nothing from the operation. Encouraged by this success, the authors undertook a second series of experiments with the view of testing the resistance of the globules to rougher treatment than generally met with in an ordinary transfusion. Repeated bleedings were made from the artery of an animal, followed by the re-introduction of the blood into a vein of the same animal. From three to ten of these auto-transfusions were made at a single sitting, lasting a couple of hours. At each bleeding about half the animal's blood was drawn, defibrinated, strained, and re-injected into a vein. The results of this experiment showed that nothing abnormal took place in the blood except a slight diminution in the number of blood-corpuscles for a few days after the operation; and this diminution was to be ascribed to an inevitable loss of corpuscles through the repeated defibrinations and injections. The loss, however, was relatively small, especially in view of the fact that, one-half of the blood of the animal having been removed ten times, each corpuscle must have been drawn from the body, beaten up, strained, and injected five times. From these facts the authors infer that the red blood-corpuscles, far from being such delicate elements as they are held to be by the observers already mentioned, are endowed with considerable power of resistance. They conclude hence that the injection of saline solution should not be allowed to replace blood-transfusions, which not only act mechanically on the circulation, as do the saline solutions, but also carry with them the red corpuscles or active elements. William R. Huggard, M.D.

6070. *Mosso on the Influence of the Nervous System on the Animal Temperature.*—In poisoning by strychnine the increase of temperature does not so much depend on the tetanic contractions as on the greater excitability of the thermic centres. In healthy frogs strychnine may increase the temperature considerably, with no assistance from muscular contraction. Strychnine also increases the temperature in frogs, when this is lowered by the action of curare, and the increase takes place notwithstanding their complete immobility. In dogs rendered motionless by curare, the rectal temperature may be increased by three or more degrees, when the excitability of the nervous system is augmented by strychnine.

G. D'Arcy Adams, M.D.

DISEASES OF THE NERVOUS SYSTEM.

RECENT PAPERS.

6071. Adam.—Visceral Disorder and Mental Disease. (*Brit. Med. Jour.*, May, p. 1019.)

6072. Pringle.—The Treatment of Hydrophobia by Suction. (*Lancet*, April, p. 782.)

6073. Dulles.—A Case of So-called Hydrophobia. (*Lancet*, May, p. 821.)

6074. Slayter.—A Case of Delirium Tremens produced by Chewing Tea. (*Lancet*, April 1886, p. 784.)

6075. Southam.—A Successful Case of Nerve-stretching for Facial Spasm. (*Lancet*, April, p. 685.)

6076. Whipham and Myers.—Some Chronic Nervous Sequelæ of Small-Pox. (*Brit. Med. Jour.*, March, p. 584.)

6077. Phillips.—The Treatment of Infantile Palsy by Galvanism. (*Brit. Med. Jour.*, July, p. 65.)

6078. Cataleptic Sleep. (*El Siglo Medico*, May 16, 1886.)

6079. Giné.—Uranostomatoscopia Frenopática. (*El Siglo Medico*, May 2. 1886.)

6080. Novi, J., and Baldi, D.—The Paths of Cerebro-spinal Centrifugal Conduction. (*Lo Sperimentale*, Fasc. iii. 1886.)

6081. Seppilli, G.—Clonic Spasm of the Tongue. (*Riv. Sperim. di Freniatria e Med. Legale*, Fasc. iv., 1886.)

6082. Krause.—A Case of Reflex Epilepsy resulting from Fly-larvæ. (*Deutsche Med. Wochensch.*, No. 19, 1886.)

6083. Pïüskïüllïëff.—On a Case of Monochorea Brachialis Dextra. (*Meditz. Spisanïë*, No. 3, 1885, p. 158.)

6084. Adamkiewicz, Professor.—A Case of Neuralgia of the Pudendal Nerve. (*Medycyna*, April 26, 1886; and the *Vratch*, No. 26, 1886, p. 480.)

6085. Moreau.—On a Case of Tetaniform Symptoms Cured by Rest. (*Alger. Médical*, January and February 1886.)

6086. Dujardin-Beaumetz.—On Two Cases of supposed Hydrophobia.

6087. Barrie.—On Hysterical Fever. (*Comptes Rendus de la Société de Biologie*, March 22, 1886.)

6088. Gayot.—On Hysterical Hemiplegia in a Child of Four Years.

6089. Dupouchel, Dr. E.—Hysteria in the Army. (*Revue de Médecine*, June 10, 1886.)

Art. 6071. *Adam on Visceral Disorder and Mental Disease.*—In the *Brit. Med. Jour.*, May 1886, p. 1019, Dr. James Adam contributes a case of mental disorder due to the accumulation of fæces in the lower bowel. The patient was a lady, aged 50, who had always enjoyed good health, until about three weeks before she came under the author's care. There were great melancholy and mental depression, determined obstinacy, constant restlessness, tossing about and tearing her hair, walking abroad in her nightdress. She was so violent that it was impossible to keep her in any one position for a moment, and she had not slept for several nights. When seen by Dr. Adam she was profoundly taciturn, and refused to take nourishment in any form. There was a history of constipation, and consequently she was given aperient medicines and enemata. She was fed three times a day by means of the stomach-pump. At the end of a week she was no better, and no action of the bowels had taken place. On examining the rectum, a large hard dense mass of scybala was found; this was broken up, and large enemata were given, so that the lower bowel was thoroughly evacuated. Very soon after free evacuation of the bowels, all the worst symptoms began gradually to disappear, and three weeks later the patient was calm, coherent, and industrious, and quite restored to her natural health.

6072. *Pringle on the Treatment of Hydrophobia by Suction.*—In the *Lancet*, April 1886, p. 782, Surgeon-Major Pringle advocates a method of free bleeding and suction in the treatment of recent cases of bites from rabid animals. Three cases are recorded. The first is that of the author himself, who was bitten by one of his own dogs when in Bengal in 1860. A little terrier suddenly rushed at him, and bit one of his fingers nearly through. Taking out his knife, Surgeon-Major Pringle laid his finger open where the dog's teeth had entered, and then sucked the wound freely, bathing it in tepid water for some time before binding up the wound. The second case occurred in one of the hospital attendants, who was bitten very badly by a patient suffering from hydrophobia—the result of a bite from a rabid jackal. The attendant was bitten upon the back of the hand, and almost immediately afterwards was seen by the author, who speedily washed the hand in tepid water and applied a ligature round the wrist; then with a knife all the pieces of injured skin were cut away and free bleeding induced; the injured man sucked the wounds for some time, and subsequently a cupping-glass was applied. The wound healed rapidly, and no bad consequences followed. The third case was the most serious. A man was bitten by a mad jackal, which seized him by the cheek, inflicting a severe wound. After well washing with water, a cupping-glass was applied and a good quantity of blood extracted; but one part of the wound could not be reached with the glass, so the author told a relative of the man to suck the wound freely. Ten years afterwards, neither of these men had suffered in any way from the bite or the suction. The author advocates this method of treatment as safe, if employed almost immediately after the wound is inflicted.

6073. *Dulles on a Case of So-called Hydrophobia.*—In the *Lancet*, May 1886, p. 821, Dr. Dulles contributes the notes of a case of what appeared to be hydrophobia, but in reality the symptoms were due to inflammation of the meninges of the brain. The patient was a boy, aged eight, who first complained of toothache about twenty-four hours before he was seen by the author; soon afterwards he complained of pain in the stomach and throat, and refused to swallow anything solid or liquid. The medical man who was attending the boy thought it was a case of hydrophobia, and sent for Dr. Dulles. On his arrival the condition was as follows: the patient was tossing about on a sofa, making inarticulate cries, constantly retching, and vomiting a glairy grumous fluid; the penis was a little turgid, but not erect; the eyeballs moved slowly, and were directed upwards most of the time, and the pupils were completely dilated; the pulse was very rapid, and the breathing catching; the head was hot, but there was no excessive perspiration, nor was there any spitting nor aërophobia whatever. The author diagnosed inflammation of the brain both on its convexity and at the base; but his colleague, knowing that the boy had been bitten by a dog about twenty months previously, hesitated to confirm this diagnosis. The treatment adopted was the application of cloths, wrung out in hot water, to the spine, and the injection of large quantities of cold water into the bowel; nothing came away, but the patient seemed to be quieted. He became much less restless, and expired after a few hours. At the *post mortem* examination the diagnosis of Dr. Dulles was fully confirmed; and, on inquiring into the previous history, it was ascertained that the boy had recently fallen from a height of a few feet, and had alighted on his head.

6074. *Slayter on a Case of Delirium Tremens caused by Chewing Tea.*—In the *Lancet*, April 1886, p. 784, Dr. Slayter records the case of a young female who complained of sleeplessness, nervousness, and repeated twitchings of the muscles of the face and extremities. The girl was in service, and her mistress had noticed her manner to be very strange for some time, as she imagined that evil spirits were haunting her. On Nov. 10, 1879, the author was summoned and found her suffering from restlessness, with a small pulse, dry tongue, and suffused eyes. A dose of bromide of potassium and chloral-hydrate gave a good night's rest, and 'the next day she was sent home to her mother. Three days later the author was again summoned. She had been found wandering about one of the wharves, and had attempted to jump into the water. On examination, Dr. Slayter noticed a hard tumour in the right iliac region. On giving a brisk cathartic, a large mass of tea-leaves came away, and for the next three weeks frequent doses of aperient medicine were given, each time bringing away more tea-leaves; the tumour also gradually disappeared, and by good nursing, proper food, and tonics, the nervous symptoms also quickly improved, enabling the girl to return to her usual work. The author then lost sight of the girl for about five years, when he was again summoned. The same well-marked symptoms of delirium tremens were present, but there was no tumour, though the evacuations contained a plentiful supply of tea-leaves. The same plan of treatment was adopted, and the girl rapidly recovered. She stated that for some years she had chewed tea-leaves, in order to enable her to perform her work better.

6075. *Southam on a Successful Case of Nerve-stretching for Facial Spasm.*—In the *Lancet*, April, 1886, p. 685, Mr. Southam writes to say that a patient whose facial nerve he stretched in 1881 has remained well ever since. The operation was followed by complete paralysis of all the muscles supplied by the nerve. About five weeks afterwards the affected muscles gradually began to regain their power, and at the end of five months the paralysis had entirely disappeared. In a recent article by Professor Zesas, particulars are given of nineteen cases of this operation. In only two instances did the operation succeed. In four cases there was considerable improvement, in ten only temporary relief was obtained; the remainder were lost sight of. Zesas is of opinion that the operation should be performed whenever the spasm is not due to intra-cranial lesions.

6076. *Whipham and Myers on Some Chronic Nervous Sequelæ of Small-Pox.*—In the *Brit. Med. Jour.*, March 1886, p. 584, Drs. Whipham and Myers publish a paper in which are detailed two cases of small-pox followed by peculiar affections of the nervous system. Cases of this kind are not recorded in any English work, though the Germans and French have occasionally met with similar instances. Both the patients were women in middle life, aged 45 and 42 respectively. One was attacked with small-pox in 1879, the other in 1881. The first patient had the disease in a confluent form, losing, as soon as the rash appeared, the power of speech. Three months afterwards, she was dismissed from the hospital with ataxic movements of the arms and legs, her speech being almost unintelligible, though no signs of paralysis of the palate had been noticed. She had also an irritable temper, quite foreign to her previous character. A few weeks later she came under Dr. Whipham's care, and has been under observation from time to time ever since. During this time her improvement has been very slow, and she retains the traces of most of the old symptoms. She is slightly irregular; the hands are both rather weak and clumsy, but the writing is now fairly well-shaped and steady. The most striking symptom is the abnormality of speech, which is sometimes obscure to a stranger. There is a nasal monotone, and in many words the syllables are scanned at nearly equal intervals, and with nearly equal accent. The second case was very similar in many respects. The authors have consulted the various authorities upon the subject of small-pox in England and on the Continent, and have met with only one similar case in England, but amongst German and French writers they have found sixteen analogous cases. In 1871 Westphal brought forward some cases in a paper written after an epidemic in Berlin, and the description given by him of the affection of the speech is very similar to that noticed by Drs. Whipham and Myers. The pathology of this affection can only be suggested, and there is nothing in the symptoms incompatible with the hypothesis of minute scattered lesions, chiefly cerebral.

6077. *Phillips on the Treatment of Infantile Palsy by Galvanism.*—In the *Brit. Med. Jour.*, July 1886, p. 65, Dr. L. Phillips states that, in many cases of infantile paralysis, galvanism does harm. To be of any use, electric treatment must produce muscular contraction by an interrupted current. When a strong current is used, the current diffuses and excites neighbouring muscles. These neighbouring muscles are frequently the physiological opponents of the affected ones, and the very ones of all others that it is undesirable to strengthen by unnecessary use of stimulation. In case the palsied muscles have lost their galvanic irritability and do not respond at all to interruptions, the effect of galvanic treatment is altogether pernicious, as it can only help the opposing muscles to increase deformity. The practical deductions drawn by the author are: 1, that the weakest interrupted current which will produce contraction of the affected muscles should be used; 2, that where no response is detectable, electric treatment should be immediately discontinued. RICHARD NEALE, M.D.

6078. *Cataleptic Sleep.*—The *Siglo Medico* gives the following remarkable case of prolonged cataleptic sleep. A young Gallegan recruit, a few months after arriving in Havanna, began to suffer from nostalgia, a malady to which his fellow-countrymen of Northern Spain are very subject. He continued to become worse and worse, until one day he was seized by a cataleptic attack, and became perfectly motionless, unconscious, and dead to all surroundings, his gentle breathing alone showing that he was alive. As he could not be aroused from this state, after a few hours his mouth was forcibly opened, and he was fed with a little milk. This was continued every six or eight hours. Such was the daily difficulty of feeding him that gradually all his front teeth were broken in the attempt. He remained in this condition for fourteen months, neither speaking nor moving, and in whatever position he was put there he remained. Finally he was aroused by hearing the familiar sound of the Muñera, a favourite dance in Galicia, while a fellow-countryman talked to him in his native patois. He was discharged in perfect health. His case created much interest, the Galician colony making a handsome subscription for him, while the best dentist in Havanna presented him with a new set of teeth, in place of those he had lost during his forced alimentation.

6079. *Giné on 'Uranostomatoscopia Frenopática.'* Giné publishes an article in the *Independencia Medica*, of Barcelona, on 'Phrenopathic uranostomatoscopy,' which signifies exploration of the palatine arch to facilitate the diagnosis of imbecility. In every degree of mental deficiency, from 'backward children,' to imbeciles and idiots, Giné says a depression or fossa, more or less deep, is to be found in the centre of the arch of the palate. The depression, which corresponds partly with the palatine apophyses of the supramaxillary bones, and partly with the horizontal portions of the palate bones, has its point of greatest depth on that point of the skeleton which is known to all students as the only spot in which the point of a pin may touch five bones, the two supramaxillary, the two palatine, and the vomer. The supramaxillary-palatine fossa exists normally in early infancy, and is then very perceptible; but if it be very exaggerated, imbecility or idiocy may be certainly prognosticated. The fossa can be simply seen, or can be felt by the forefinger. The depth of the depression corresponds with the degree of imbecility.

6080. *Novi and Baldi on the Paths of Cerebro-Spinal Centrifugal Conduction.*—1. To unilateral stimulation of the excitable zone of the cortex, when the stimulation is slight, follows invariably a crossed unilateral movement; when the stimulation is stronger, a bilateral movement follows which may be diffused to all four extremities. 2. When a bilateral movement occurs, the first to contract are the muscles of the crossed limb or limbs, and then the muscles of the limb or limbs of the same side as the excitement. 3. When a spinal hemi-section is practised, the phenomenon is inverted, that is, the cortical excitement of the side opposed to the hemi-section gives rise to a more prompt movement in the muscles of the side homologous to the excited hemisphere, which afterwards is diffused to the muscles of the opposite side corresponding to the hemi-section. 4. In a dog in which one of the sigmoid convolutions was extirpated, when the other was excited, there were weak movements in the muscles of the side opposite to the extirpated sigmoid convolution or homonymous to the excited side. If afterwards a spinal hemi-section was performed, in correspondence with the last dorsal vertebra, on the same side as the ablation of the cortex, and the remaining excitable zone then stimulated, the movements on the same side as the stimulation disappeared almost entirely. 5. In a dog with the corpus callosum removed, bilateral movements are possible, but those of the same side as the excitement are scarcely perceptible. Spinal hemi-section in this case is followed by almost complete abolition of reactive movements of the two limbs of the same side as the excitement. 5. In a dog in which were removed on one side the posterior roots of the spinal pair which form the crural and sciatic nerve, there occurs a form of movement differing in the two posterior limbs, when the excitable zone corresponding to the side on which the roots are removed is excited. From these facts it appears that for centrifugal transmissions to the spinal medulla of excitement arising in the motor centres of the cortex of a cerebral hemisphere in dogs, not only paths of transverse interspinal conduction exist, but also paths of transverse intercerebral conduction.

6081. *Seppilli on Clonic Spasm of the Tongue.*—Clonic spasm of the tongue, met with often enough in convulsive diseases, is very rare as an isolated form, limited, that is, to the muscles of the tongue so as to constitute an idiopathic disease. Very few cases are recorded. Berger contributes two cases, and Erb and Remak one each. Seppilli's case differs in some particulars from any of these. A woman, 34, married, father insane, has herself twice been in an asylum, first during her first pregnancy, and the second time while suckling the second child. During this second time the spasm of the tongue occurred, presenting the following characters. The tongue is subject to involuntary rhythmic muscular movements, limited to the right half of the organ; at every contraction the right half of the tongue is first carried backwards, then pushed forwards against the teeth. With this antero-posterior movement is associated a lateral movement, which propels the tongue towards the right side of the mouth. Fibrillary contractions in the right half of the tongue occur simultaneously with the above movements. This muscular cramp was continuous (forty and fifty times or more to the minute), but varied in intensity, and never impeded speech or deglutition. The long duration of the symptoms, seven months, and the unilateral character of the spasms distinguish this case from those already reported. The treatment consisted in the use of the faradic current and bromide of potassium. The pathogenesis is doubtful, but the author thinks that, as the motor innervation of the whole tongue is derived from the hypoglossal, the fibres of which are in direct relation with cerebral cortex and bulb, one may admit a transitory irritative state of the cortical or subcortical motor points of the hypoglossal. According to this the spasm of the tongue would belong to the class of functional spasms, and might even be considered as a neurosis of the hypoglossal.

G. D'ARCY ADAMS, M.D.

6082. *Krause on a Case of Reflex Epilepsy resulting from Fly-larvæ.*—Dr. Krause, of Hultschin, reports in the *Deutsche Med. Wochensch.*, No. 17, a case of sudden epilepsy in a man aged 40, a tanner, who had always been strong and healthy. On his recovering from the fit, he was given bromide of potassium with bromide of ammonium, and, there being constipation, sulphate of magnesia. The latter soon had its effect, and the stool was found to be swarming with insect life. There were two kinds of creatures, one 1½ centimètre long and 1¼ millimetre thick, of a yellowish white colour, with a narrow head and a thicker end; the other shorter but broader, with feather-like organs at the sides. Dr. Krause submitted these parasites for examination to Dr. Leuckart of Leipsic, who stated that the larger were the larvæ of the *musca vomitoria*, and the smaller the larvæ of the *anthomyia canicularis.* The number of parasites in the stool Dr. Krause estimated at 1,000. As soon as these were voided all oppressive symptoms vanished, and the man has since then (four months) had no return of epilepsy. As these larvæ are found in raw hides, it was at first supposed that the man had acquired them at his trade, but, considering the enormous number in the stool, Dr. Krause agrees with Leuckart's view, that they had entered with some cold meat eaten by the man, developing afterwards in the stomach and intestinal canal. Dr. Krause has no doubt about this having been a case of epilepsy, nor that it was caused by the larvæ. The causal connection appears to him perfectly intelligible. In adults sometimes, and in children more frequently, we find ascarides and other worms causing irritation of the bowels, convulsions, and nervous attacks in general. Reynolds reports, in his work on epilepsy, a striking case of a mother and her two daughters, aged 10 and 12 years. The mother had had epileptic attacks for ten years, the daughters for three. In the case of the former a tapeworm was removed with pomegranate bark and the children, after taking santonine, passed ascarides. After this the epileptic attacks ceased in all three cases, and in four years had not recurred. Similar cases in children are to be found reported by Dr. Dickinson in the *Med. Times and Gazette*, 1863, vol. i., p. 110, and in adults in the *London Med. Gazette*, New Series, vol. v., p. 109. The large number of larvæ in his case must, Dr. Krause thinks, have caused much greater irritation than tapeworm or ascarides, though no other symptoms of this were observed but the epileptic fit.

JOHN ELLIOTT.

6083. *Pïüskïüllïëff on a Case of Monochorea Brachialis Dextra.*—At a meeting of the Varna Medical Society, Dr. Pïüskïüllïëff communicated (*Meditz. Spisanië*, No. 3, 1885, p. 158) the case of a peasant woman, aged 25, who had been admitted to the Varna Hospital (under the care of a lady doctor, Miss Dileva), suffering from severe choreic movements limited to the right upper limb. According to the patient's statement, she was quite healthy up to the age of 19, when she fell ill with typhoid fever of forty days' duration. After her recovery from the disease, there appeared at first slight twitchings (*trepiraniata*), and then, gradually, more intense movements, the strength of which remained stationary for the next six years. She never had had rheumatism, but in her childhood had suffered from violent headache. On examination, there were found a slight depression of her mouth towards the right, and deviation of the tongue (when protruded) to the left, the former anomaly being present from her early childhood. Sensibility and intellect were found quite normal. The author seems to be inclined to think that this 'right brachial monochorea' was caused by some inflammatory process in the nerve-centres which had been brought about by enteric fever.

6084. *Adamkiewicz on a Case of Neuralgia of the Pudendal Nerve.*—Professor Adamkiewicz, of Cracow, reports (*Medycyna*, April 26, 1886; and the *Vratch*, No. 26, 1886, p. 480) an extremely rare case of neuralgia affecting the pudendal nerve alone. A previously healthy woman, about three years before coming under the author's observation, and about two months after her second labour, began to suffer from an intense 'tying together' pain in her urethra during micturition. Subsequently, the pain spread over the bladder and became almost incessant; it grew worse from every movement and emotion, and was now associated with calls to pass urine. There were present two painful and tender points: one was situated at the apex of the angle formed by the sciatic tuberosity and an edge of the great gluteus muscle; another was found at a spot on the inner surface of the ascending ramus of the sciatic bone. The treatment adopted by Professor Adamkiewicz consisted in galvanisation (daily sittings of several minutes' duration), the anode being applied between the tuberosity and spine of the sciatic bone, and the cathode to the sacrum or to the pubic symphysis. A complete cure followed after three months' treatment.

V. IDELSON, M.D.

6085. *Moreau on a Case of Tetaniform Symptoms Cured by Rest.*—Dr. M. L. Moreau publishes in the *Alger Médical* of January and February 1886 notes on a case of tetaniform symptoms cured by rest, sedatives, and electricity. The patient presented all the symptoms of tetanus (trismus and opisthotonos), without any apparent reason; his intelligence was intact; he was cured in four days by morphine and chloral given in full doses, thorough rest, and being enveloped in cotton-wool. The patient had presented similar symptoms fourteen years previously, in consequence of injury to the scalp from a nail. On the present occasion, another equally insignificant reason was suggested. The patient, to obtain relief from a nervous affection, covered his body with needle pricks by using an instrument similar to a cupping apparatus. These recurring tetanic attacks indicated a constitutional predisposition which M. Moreau sought to explain as hysterical, but the symptoms were not sufficiently marked to justify this diagnosis. Poisoning by strychnia could not either be invoked as an explanation. A carefully kept register of the patient's temperature during the attacks would have furnished some data, but this was not done. The most probable hypothesis is that repeated cutaneous irritation practised on a neuropath, provoked symptoms of a tetaniform character.

6086. *Dujardin-Beaumetz on Two Cases of supposed Hydrophobia.*—At a recent meeting of the Conseil d'Hygiène, Dr. Dujardin-Beaumetz reported on two cases of supposed hydrophobia, which had been treated at the Hôtel-Dieu Hospital. One of the patients exhibited all the symptoms of alcoholic delirium. Two days after his entry, he was completely cured. Fifteen days previously to his attack he had been bitten by a dog, but the animal was not mad. During one of the attacks of delirium tremens, the patient tried to bite people who were about him. M. Dujardin-Beaumetz stated that he had never met with people suffering from rabies attempting to bite others, and could confidently assert that such an attempt is a symptom of alcoholic delirium and not of rabies. Last year, a man was admitted at the Lariboisière Hospital suffering from rabies. He attempted to bite the male nurses, but he was also intemperate; and Dr. Dujardin-Beaumetz attributes this attempt to the effect of alcoholism, rather than rabies. The other patient treated at the Hôtel-Dieu declared himself to be suffering from hydrophobia, but his real ailment was gastric fever. Last year, the same patient was received at the Necker Hospital for simulated hydrophobia, believed at the time to be real. M. Dujardin-Beaumetz terminated his report by stating that since January 1, 1886, ninety persons had been bitten by dogs proved to be mad. One among these persons neglected to go to M. Pasteur's laboratory to be treated, and he died; the remaining eighty-nine were cured.

6087. *Barrie on Hysterical Fever.*—M. Barrie has met with, at the Bicêtre Hospital, a case of hysterical fever which he described at a recent meeting of the Paris Biological Society. The patient was the wife of one of the hospital servants. One morning, when recovering from an attack of hysteria, she was seized with hemiplegia on the left side. She was admitted into one of the wards to be treated, and had as many as thirty hysterical attacks; hemiplegia continued, although every curative means was adopted; it disappeared suddenly after an unusually violent hysterical attack. The skin was dry and feverish; the thermometer placed in the armpit marked 39° C. (102° F.), the next morning 38°·6 C. (100°·6 F.). The following days, the temperature was carefully taken by placing a thermometer in the armpit, and another in the rectum; shamming was impossible. The temperature registered was correct. The hysterical attacks at this juncture were constant, sometimes subintrant. The patient was rarely able to take food. One day the temperature rose to 40° C. (104° F.) in the morning, and fell some tenths of a degree. Notwithstanding that the fever continued three weeks, there was no disturbance of the principal organs; the tongue was moist and quite normal. After twenty days of fever, defervescence occurred suddenly, and the attacks of convulsions subsequently disappeared.

6088. *Gayot on Hysterical Hemiplegia in a Child of Four Years.*—At a recent meeting of the Paris Biological Society, M. Gayot read the following note. A child, aged 4, perfectly free from any nervous symptoms, was, after undergoing violent agitation, seized with hemiplegia of the right side and aphasia; the motor and sensory faculties were impaired. A few days later on, the hemiplegia disappeared, but reappeared the next morning; the following night, the sensory and motor faculties regained their normal activity; the child's health has since remained excellent. Her mother has an excessively nervous temperament, and she is the daughter of gouty parents; the father is also highly nervous in temperament. Each return of hemiplegia in the child was accompanied by aphasia. W. Vignal.

6089. *Dupouchel on Hysteria in the Army.*—As the result of a series of observations, Dr. Dupouchel has arrived at the conclusion that hysteria is entitled to an important position in the nosology of the army. He considers that many cases of hysteria in the past have been classified either as malingerers or as epileptics. He points out the essential points of difference between epilepsy and hysteria as regards aberrations of the mind as well as of sensation and movement, such, for instance, as the localised anæsthesia or hyperæsthesia, the modifications of the reflexes, and the integrity of muscular irritability as tested by the electric current. The susceptibility of such subjects to hypnotic influences is also alluded to as aiding in the diagnosis. One of the difficulties in the way of a reliable diagnosis is the uncertain advent, and often brief duration, of the 'attacks.' It is therefore all the more important to arrive at a diagnosis without waiting for a characteristic attack, as the prolonged and often indefinite sojourn in hospitals of doubtful cases is thereby avoided. Catalepsy and somnambulism are now admitted to be presumptive evidence of what might be termed the 'hysterical tendency.' The complaint, of course, is one of every degree of severity; but it is obviously very difficult to say exactly what degree would incapacitate a soldier for service. One of the most curious facts revealed is the possibility of hysterical paralysis of traumatic origin.

Alfred S. Gubb.

DISEASES OF CHILDREN.

RECENT PAPERS.

6090. Hett.—Phimosis in Infancy. (*Lancet*, February, p. 396.)

6091. Lutaud.—On a Case of Multiple Hæmorrhage in an Infant followed by Jaundice.

6092. Bradley.—On the Diagnosis of Infantile Diseases. (*L'Union Médicale du Canada.*)

6093. Bernhardt.—On Infantile Aphasia. (*Deutsche Med. Zeitung.*)

6094. Loeb.—Bursting of a Caseous Gland into the Right Bronchus. (*Jahrb. für Kinderheilk.*, Band xxiv.)

6095. Eichhorst.—On Albuminuria in the Young. (*Revue de Thér. Méd. Chir.*, and *Le Moniteur du Practicien*, June 1886.)

6096. Przybylski, Roman M.—On Emphysema Cutis in a Child. (*Proceedings of the Vilna Medical Society*, No. 12, 1886, p. 3.)

Art. 6090. *Hett on Phimosis in Infancy.*—In the *Lancet*, February 1886, p. 396, Dr. Hett contributes a few remarks on the subject of phimosis in infants. The author suggests the following rule for those who take charge of midwifery cases: to examine every male child within a few days of birth, and if the prepuce cannot be retracted by the exertion of a moderate amount of force, to perform circumcision on or about the eighth day after birth. Many an unfortunate little boy is credited with bad temper and punished for naughtiness, whose irritability is due to neglected phimosis. There is also much reason for thinking that the habit of masturbation is frequently led up to by a morbidly excitable condition of the sexual organs, due to phimosis. Circumcision may be performed by seizing the extremity of the prepuce between the finger and thumb of the left hand, drawing it well forwards, and slicing it off diagonally downwards and forwards just in front of the glans. The mucous membrane should then be split along the dorsum, quite up to the cervix, turned back, and retained in position by a narrow strip of dry lint wrapped firmly three or four times round the penis. No sutures are necessary. The lint can be removed in a few days, when generally the wound is quite healed. Richard Neale, M.D.

6091. *Lutaud on a Case of Multiple Hæmorrhage in an Infant, followed by Jaundice.*—The infant was born at term, of healthy and well-formed parents, after a normal pregnancy and labour. The day following birth, copious intestinal hæmorrhage was noticed, and a mixture containing bismuth was given, the hæmorrhage then ceasing. On the fourth and fifth days, the infant lost a great deal of blood from the mouth and nose, but less than from the intestines. The appearance of the child was fairly satisfactory, and it took the breast well. On the sixth day, numerous subcutaneous extravasations showed themselves, mostly in the neighbourhood of the knees and elbows. The detachment of the umbilical cord also gave rise to some oozing. The child was placed in cotton-wool, to avoid the formation of fresh ecchymoses. On the eighth day, there were more ecchymoses and epistaxis, and the infant showed signs of exhaustion and had a yellowish tinge of the skin. On the ninth day, a smart hæmorrhage took place from the site of the umbilical cord, which was only checked with difficulty; it recurred the same afternoon and subsequently on the following day, when the child succumbed. No *post mortem* examination was allowed, but the case was diagnosed as one of simple hæmophilia.

6092. *Bradley on the Diagnosis of Infantile Diseases.*—In a recent number of *L'Union Médicale du Canada*, Dr. Bradley gives the following summary of points on the diagnosis of disease of infants. 1. Congestion of the cheeks in children, excepting in cases of cachexia and chronic disease, indicates an inflammation or a febrile condition. 2. Congestion of the face, ears, and forehead, of short duration, strabismus with febrile reaction, oscillation of the iris, irregularity of the pupil, with falling of the upper lids, indicates a cerebral affection. 3. A marked degree of emaciation, which progresses gradually, indicates some subacute or chronic affection of a grave character. 4. Bulbar hypertrophy of the fingers, and curving of the nails, are signs of cyanosis. 5. Hypertrophy of the spongy portion of the bones indicates rachitis. 6. The presence between the eyelids of a thick and purulent secretion from the Meibomian glands may indicate great prostration of the general powers. 7. Passive congestion of the conjunctival vessels indicates approaching death. 8. Long-continued lividity, as well as lividity produced by emotion and excitement, the respiration continuing normal, are indices of a fault in the formation of the heart or the great vessels. 9. A temporary lividity indicates the existence of a grave acute disease, especially of the respiratory organs. 10. The absence of tears in children four months old or more suggests a form of disease which will usually be fatal. 11. Piercing and acute cries indicate a severe cerebro-spinal trouble. 12. Irregular muscular movements, which are partly under the control of the will during the hours when one is awake, indicate the existence of chorea. 13. The contraction of the eyebrows, together with a turning of the head and eyes to avert the light, is a sign of cephalalgia. 14. When the child holds his hand upon his head, or strives to rest the head upon the bosom of his mother or nurse, he may be suffering from ear-disease. 15. When the fingers are carried to the mouth, and there is, beside, great agitation apparent, there is probably some abnormal condition of the larynx. 16. The act of scratching or of pinching the nose in children indicates the presence of worms or of some intestinal trouble. 17. When a child turns his head constantly from one side to another, there is a suggestion of some obstruction in the larynx. 18. A hoarse and indistinct voice is suggestive of laryngitis. 19. A feeble and plaintive voice indicates a trouble in the abdominal organs. 20. A slow and intermittent respiration, accompanied with sighs, suggests the presence of cerebral disease. 21. If the respiration be intermittent but accelerated, there is capillary bronchitis. 22. If it be superficial and accelerated, there is some inflammatory trouble of the larynx and trachea. 23. A strong and sonorous cough suggests spasmodic croup. 24. A hoarse and rough cough is an indication of true croup. 25. When the cough is clear and distinct, there is bronchitis. 26. When it is suppressed and painful, there is pneumonia and pleurisy. 27. If the cough be convulsive, it indicates whooping-cough. 28. Sometimes one sees a dry and painless cough in the course of typhoid and intermittent fever, in the course of difficult dentition, or an attack of worms; under these conditions, the cough is often due only to a bronchitis which has been caused by the original disease.

6093. *Bernhardt on Infantile Aphasia.*—Professor Bernhardt, in an article on this subject, sums up as follows. 1. Genuine infantile aphasia is not so common an affection as is commonly believed; about ninety cases are all that are recorded. 2. Its etiological factors are nearly identical with those producing the affection in the adult phases of life, with special consideration, though, of the various characteristics of childhood. The principal causes are reflex conditions after indigestion, entozoa, psychical irritation, infectious diseases, acute and chronic brain affections. 3. Infantile aphasia is chiefly a symptom of cerebral infantile paralysis. 4. Hemiplegia does not necessarily exist along with aphasia. 5. The affection may disappear spontaneously, especially after prudent and systematic physical exercise. 6. The nature of the cerebral lesion in cases of aphasia existing since birth, is not known, since no necropsies are recorded. The treatment of the affection is little effectual; antiphlogistic measures at first, and later the galvanic current, together with the preparations of iodine and bromine, are suggested.

ALFRED S. GUBB.

6094. *Loeb on the Bursting of a Caseous Gland into the Right Bronchus.*—Dr. Loeb, of Frankfort, gives in the *Jahrbuch für Kinderheilkunde*, Band xxiv., part 4, the notes of the above case. The patient was a boy 4 years of age, to whom Dr. Loeb was called on Sept. 1, 1885. He was then cyanotic, with cold extremities and distended jugulars, and was struggling for breath. According to the mother, the child half an hour previously was quite healthy, with the exception of a slight cough and expectoration, which he had had for three weeks. In the previous February he had an attack of whooping-cough. There seemed to be no possibility of the child having any foreign body in the windpipe. The body was well nourished, and the dyspnœa seemed to affect both inspiration and expiration, but chiefly the latter. There was no whistling inspiration, no stridor, no inspiratory drawing in of the epigastrium. The alæ nasi were dilated, the sterno-mastoids were tense, the pulse regular, and respirations not increased in frequency. There was no dulness in the thorax. On the contrary, there were all the symptoms of acute emphysema of the lungs, depression of the diaphragm, diminished cardiac dulness, &c. Everywhere there was feeble vesicular breathing and scanty rhonchus. The heart-sounds were normal; the voice was unaffected; swallowing was tolerably easy; the mind was clear. This cyanotic condition continued for another twenty minutes; then the breathing ceased, the skin became livid rather than blue, and the child lay apparently lifeless. After dashing cold water upon him the breathing returned, the patient coughed convulsively, and clutched repeatedly at his throat; then the breathing and the pulse again became irregular. Finally, death supervened exactly one hour from the commencement of the attack. The *post mortem* examination, conducted by Professor Weigert, showed the diaphragm on the right side at the fifth rib; on the left at the sixth. On opening the thorax, the lungs were seen to be distended so as to be quite over the heart. The left pleura contained numerous miliary nodules, most abundant near the hilus. The lung-substance showed the same, but they were less numerous; some were grey, others whitish; the lymphatic glands of this side were only slightly enlarged. The right pleura presented abundant nodules, especially on the diaphragm. Upon dividing the right lung, a hollow space about the size of a filbert was seen immediately below the bronchus; it had smooth walls, contained a little sanguine pus, and communicated with the bronchus by a rounded opening, nearly of the size of a threepenny piece. Both bronchi were filled with mucus. The substance of the right lung contained a few scattered nodules. Upon dividing the trachea, the cavity already mentioned was seen to encroach also upon its walls. Within the trachea, at its lower part, was a tolerably solid cheesy mass, about the same size as the cavity, into which its lower part just dipped. The solid abdominal viscera all showed nodules. The diagnosis registered was, therefore, cheesy degeneration of a right bronchial gland, with softening, and the formation of a sequestrum; ulceration into the right bronchus. The suffocation was due to the sudden passage of the sequestrum into the trachea, where it remained. The expiratory character of the dyspnœa which clouded the diagnosis during life, and which it is rare to find produced by a foreign body in the trachea, was probably due to a valve-like action of the sequestrum. RALPH W. LEFTWICH, M.D.

6095. *Eichhorst on Albuminuria in the Young.*—Albuminuria frequently occurs during the period of growth. Dr. Eichhorst observed many cases, which could not be attributed to any local affection, but which were evidently the consequence of a too rapid and precocious development of the body. The urine contained a more or less considerable quantity of albumen. The albuminuria in some cases preceded several hours or days the first symptoms of general disturbance of health, and ceased at the same time with the latter. The urine was limpid, and of pale yellow colour; in only one case hyaline cylinders and a few fat-globules were found. The attacks of albuminuria were repeated at intervals of weeks or months. The duration of each attack varied from one day to a week. The prognosis is favourable. Tonics and a long residence in the country are the only treatment required. The symptoms which accompany this kind of transitory albuminuria may, according to Eichhorst, be arranged in three groups: 1, stiffness of the joints, lassitude, inaptitude for work, loss of memory; 2, irritability, extreme mutability of character, and excitability; 3, more rarely, headache, vomiting, muscular tremors, and epileptiform convulsions of short duration. FERD. ADALB. JUNKER, M.D.

6096. *Przybylski on Subcutaneous Emphysema in a Child.*—Dr. Roman M. Przybylski, of Vilna, briefly reports (*Proceedings of the Vilna Medical Society*, No. 12, 1886) the rare case of a child who, for a long period before his admission, suffered from cough and then suddenly began to swell. On admission, there was found subcutaneous emphysema over the whole body, the skin being of a normal colour and otherwise healthy. According to the author's theory, the occurrence of this phenomenon may be explained by bursting of some pulmonary alveoli in presence of an extensive adhesion between the costal and pulmonary pleuræ, the air entering into the anterior mediastinum, and hence penetrating through the jugulum sterni into the subcutaneous alveolar tissue of the whole body. No pneumothorax was present. A similar case in a child was reported by Wittmann. Of adult cases, Dr. Przybylski mentions those of F. Worthington, A. Prince, Blennerhassett Atthill, and Prescott. [A large series of cases is referred to in Dr. R. Neale's *Medical Digest*, sect. 657 : 2, 3, 4—*Rep.*]

V. IDELSON, M.D.

QUINQUAUD ON SUGAR IN THE BLOOD.—M. Quinquaud, at a recent meeting of the Biological Society, stated that, having ascertained that there are several errors in the existing method of testing blood for sugar with the usual re-agents, he has modified the system of analysis, and uses icthyocol; he has obtained precise results, and ascertained from them that the proportion of sugar contained in the blood is inferior to that stated by C. Besnard.

REVIEWS.

ARTICLE 6097.

The Colloquial Faculty for Languages, Cerebral Localisation and the Nature of Genius, Tentamen Physiologicum. By WALTER HAYLE WALSHE, M.D. Second edition, greatly enlarged. London: Churchill. 1886.

THOSE who have, like ourselves, been diligent students of Dr. Walshe's Treatises on Diseases of the Lungs and Heart, will take up this book with much prepossession in its favour. If not a master of style, Dr. Walshe was celebrated for his powers of clear exposition and nicety of arrangement. During a long lifetime, the accomplished author has accumulated a rich store of experience and a fund of diverting anecdotes about languages and learning languages which makes the book under review very readable. We should judge that he has now lived some years passing much of his time in reading. Dr. Walshe is interesting when he reproduces his experience; but when he draws from his reading, he is sometimes commonplace. We suppose that the knowledge that he was writing about foreign tongues is the reason why his pages are scattered over with quotations from so many languages; some of them of the tritest character. In fact, he cannot go on for a page without introducing quotations or far-fetched allusions to this and that learned book; but surely to repeat quotations that start up in every country newspaper and schoolboy's essay, is quite unworthy of a professor. Let us take, for example, one passage. Combating the shallow notion that genius is an unlimited power of taking pains, Dr. Walshe (p. 190) observes: 'Now in all these cases, supplied by intellectual departments the most various, where is the evidence of sustained labour? In each instance adduced the endowment has been a gift, not an *acquirement*; and the enumeration but rings the changes on the shrewd Roman's apophthegm, *Poeta nascitur non fit.* Yet *audiamus alteram partem*, as advocated by Dr. Maudsley.'

Now is there any greater force in saying *audiamus alteram partem* than in saying 'Let us hear the other side?' Sometimes, again, he oddly translates foreign expressions into English, as when he speaks of blunders 'perpetrated by members of the cream of the cream of French men of letters.' Even in French, could one speak of *un membre de la crême?* Nevertheless, Dr. Walshe's meaning is generally clear enough to a well-educated person, and the reader unacquainted with the strange tongues which he quotes can very well pass over his citations without losing much. The author combats the erroneous belief 'that foreign languages are easily acquirable, and actually are practically possessed in greater or less profusion and in very faultless fashion by crowds of people, especially among ourselves.'

We certainly agree with Dr. Walshe that colloquial facility in any foreign language is rarely, if ever, attained, save when the person has resided for years in the foreign country during the period of youth. Even when persons learn a foreign language, they are very apt to lose some of their own. The statements often made that so-and-so speaks a foreign language like a native almost always turns out to be a delusion. It is rare that even diligent scholars learn to speak a foreign language with grammatical correctness; but to learn to speak it with elegance and such propriety of accent that they could pass as natives is an event so rare, that we can only recall a single instance in our own country of a foreigner learning to write and speak English with irreproachable correctness.

Dr. Walshe's exposure of the mistakes made by men who are believed to be good linguists are amusing enough, only it must be remembered that in quoting foreign languages one has a hard battle with the printer. It is likely enough that some mistakes which Dr. Walshe himself has made are really misprints; he has *vernunf* instead of *vernunft*, *didecerunt* instead of *didicerunt*, and *Les passions sont les seuls orateurs que persuadent toujours* instead of *qui persuadent*. When he quotes Greek, Dr. Walshe sometimes gives the accents most carefully, sometimes he gives none at all.

In correcting a blunder of a French translator of Scott's works, who rendered *a stickit minister* by *un ministre assassiné*, Dr. Walshe explains that it means 'an unsuccessful parson'; but a stickit minister means in Scotch a minister who fails to get a church or charge of some kind. A man who was suspended or turned out of his manse by the General Assembly might fairly be called an unsuccessful parson, but not a *stickit minister*. Moreover, a parson who was stabbed might quite correctly be called a *stickit minister*.

Commenting upon Victor Hugo's odd translation of the Firth of Forth, *la falaise Première des Quatre*, Dr. Walshe tells us that it is a gulf formed by two rivers. Does the Firth commence above Stirling?

Dr. Walshe tells us that Voltaire managed during his few months' stay in England to acquire very considerable proficiency in the language. Voltaire spent about three years in England.

The author gives what he calls a popular description of the physiological mechanism of speech with a story in outline, in popular form, of the rise, progress, and establishment of the doctrine of cerebral localisation. He speaks of the results obtained by Fritsch, Hitzig, and Ferrier, in exciting crucial motor action in the limbs by electric stimulation of the anterior part of the cortex. This might lead an unlearned reader to suppose that the frontal lobes have a motor function. Naturally, Dr. Walshe enters more fully upon the speech centres; he is ready to admit a spelling centre, though he observes that it has not yet been identified as the occupant of a separate locality.

Dr. Walshe claims to have been the first to give a physiological answer to the question, What structural factor, or group of factors, distinguishes the brain of the man of genius? The following is his explanation or definition. Genius may be described as 'the irrepressible energy of various differentiated, specially dynamised, and perfectly organised clusters of brain-cells (cerebral centres), which through use increase in potentiality and in readiness of assimilating nutrient material from the interwoven neuroglia and its contained protoplasm, and eventually grow extra nourished and extra vigorous. The perfection of cell-structure and the preponderance of contained force become so great that a quiescent state of the centres concerned ceases to be possible, a physiological conception rendering the familiar phrase, "genius must out," on rational grounds intelligible. But this is by no means all. With this condition of brain-cells must be associated, as a matter of necessity, normal activity of the afferent, efferent, and intertwining cerebral and nerve-currents.' Long may Dr. Walshe continue to make such discoveries in physiology. It is not perhaps yet demonstrated that the function of the neuroglia is to give nutriment to the nerve-cells; and, indeed, the predominant work assigned to the nerve-cells over the other anatomical elements in which they are imbedded is getting a little out of fashion.

Though Dr. Walshe gives many definitions of what is called genius, we do not clearly see that it is more than special ability. His instances are confusing: he believes that Mr. Huxley has genius and Macaulay had none; John Stuart Mill had genius much more than Thomas Carlyle; whilst the elder Mill 'figured simply as a plodding historian and fairly estimable classical scholar.' Did Dr. Walshe never hear of James Mill's *Analysis of the Phenomena of the Human Mind?* The following observation given in the addenda is interesting. 'I knew a north country youth who, having previously displayed but feeble, if any, "taste for art," suddenly, during a winter spent in Algeria, became a painter. The luminosity of the atmosphere, the clearly far-lit landscape, the sharp outlines, the deep shadows, the brilliant colorations, the Moorish architecture, the picturesque draperies, unwonted attitudes, gesticulations, and groupings, either solemn or comical, of the natives, all combined, in their powerful contrast to his past experience of a humdrum land of gloom, to abruptly stimulate into wakeful life the hitherto dormant brain-cells of the pictorial craft.'

Throughout the book, Dr. Walshe shows a great acquaintance with music. Some of his remarks on this subject are most interesting. Take the following.

'I knew a dog who invariably uttered a heart-rending howl when the note F sharp on the fifth line of the treble clef was struck on the piano. I have seen him rouse up out of apparent sleep at the sound. Now the animal proved, under repeated trials, perfectly indifferent to the semi-tone above and below that note, to its octaves, and, in fact, to all other notes.' WILLIAM W. IRELAND.

ARTICLE 6098.

Short Sight, Long Sight, and Astigmatism. By GEORGE F. HELM, M.D.T.C.D., F.R.C.S. London: J. & A. Churchill. 1886.

SO many books have recently been written upon the refraction of the eye, that it was with some curiosity that we turned to the author's preface, to see what was the object at which he aimed in this book. We found that it was intended to be an 'Elementary Treatise' for students and practitioners, and 'to serve as an introduction to the more advanced manuals on the same subject.' We can by no means admit the necessity for such a work, at any rate in the form which this book assumes. An elementary book can only serve an useful purpose when it teaches the rudiments of the subject with which it deals, and thus only can it serve as an introduction to other more advanced books. The foundation of the theoretical part of refraction is the study of optics; and not only are there numerous excellent and simple text-books upon the subject, but, in addition, most of the so-called 'advanced' manuals contain an introductory section on optics which would be perfectly intelligible to any one. We should not, however, be disposed to quarrel with our author for producing a superfluous work, if it seemed likely to serve its purpose. We much regret to say, however, that both in the matter, and in its arrangement, the book falls far below any recent work upon the same subject. Facts that are simple are repeated over and over again in different words, equally important facts are altogether omitted, and errors, many of a very serious character, are numerous. Even the facts that are given are arranged with so little regard to their logical sequence, that we are convinced that a student would find them harder to understand than if he had read them in one of the most 'advanced' manuals. No attempt is made to explain facts which are dogmatically stated, yet this is surely the function of an elementary treatise. The laws of refraction are not given; nothing is even said of their existence; the effect of a lens and of a prism is merely described, and that very inaccurately, and the reader is left entirely in the dark as to why they act as they are stated to do. Again, no explanation is given of the fact that an eye with simple astigmatism sees best lines that are at right angles to its emmetropic meridian; yet, as every teacher knows, this is the very *pons asinorum* of astigmatism, and until it is mastered the whole subject is unintelligible.

Such errors as the following—to cite only a few—ought not, we consider, to occur in a book of this kind (the numbers refer to the paragraphs). (22). Diverging rays passing through a concave lens will be more refracted than parallel rays passing through the same lens. (30). The writer clearly implies, and evidently believes, that two points can only be conjugate foci to each other when they are equidistant from the lens. (32). An eye in connection with refraction may be considered as made up (1) of certain refractive media—cornea, aqueous humour, lens, which together possess the same power of refracting rays of light as does a convex lens; (2) the retina. We venture to say that any student thus describing in an examination the optical properties of the eye would deserve to be plucked. It is only far on in the book that we find the vitreous body mentioned as one of the refracting media, and any indication given that the refracting *surfaces* are of any importance. (108 to 115). Here the writer endeavours to explain what the visual angle is; and, for a reason that will be sufficiently obvious, he entirely fails. It is repeated again and again that it has a constant magnitude of five minutes, and it is evident that the writer believes it to be one of the optical constants of the eye. Then follows a paragraph, the origin of which we cannot conjecture, about the size of the visual angle being larger in myopia than in emmetropia or hypermetropia; and this is accompanied by a wrongly drawn figure, which can hardly be said even to demonstrate the meaning of the text.

We have cited but a few of the defects with which this book abounds. All tests in which the ophthalmoscope is employed are omitted, although some of these are easily learnt, and a knowledge of them is essential to the practitioner and to the student.

In conclusion, we regret that we cannot speak more favourably of this book; but we must emphatically protest against the growing practice of cramming students with facts, without explanations of the principles on which they depend, and against the neglect of literary style which too often prevails.

W. Adams Frost.

Article 6099.

La Syphilis Héréditaire Tardive. Leçons professées. Par Alfred Fournier, Professeur à la Faculté de Médecine de Paris, &c. Avec 31 figures, par Alfred Forgeron. Paris: G. Masson. 1886. Pp. 650.

Under the title *Syphilis Héréditaire Tardive,* M. Fournier includes all those manifestations of inherited syphilis which appear in childhood, adolescence, and adult life, whether they occur then for the first time or have been preceded by evidence of the taint during infancy (*Syphilis Héréditaire Précoce*). After some preliminary remarks, which occupy the first twenty-two pages of the work, the author proceeds to consider his subject in detail, dividing it for this purpose into three parts.

The first part is entitled 'Elements Diagnostiques,' and has already been published in the *Annales de Dermatologie et de Syphiligraphie.*[*] The various clinical signs and symptoms which may be of assistance in the diagnosis of inherited syphilis are enumerated and successively dealt with, as well as the equally important evidence obtainable from the patient's history, and from the examination and history of other members of his family. The value of these various elements in diagnosis is carefully explained, due attention being here given to the association of the lesions of the eye, ear, and teeth, first pointed out by Mr. Hutchinson (*Triade d'Hutchinson*). The question of syphilitic teeth is most elaborately dealt with, nearly eighty pages with numerous illustrations being devoted to a full consideration of the many abnormalities that may be found in both the temporary and permanent teeth of those who have inherited syphilis. As to the diagnostic value of these, M. Fournier is of opinion that, while none of them can be considered *pathognomonic*, the malformation described by Mr. Hutchinson, and characterised by the semilunar notch in the free border of (especially) the permanent median upper incisors (*dent d'Hutchinson*), is by far the most valuable as evidence of inherited taint. Indeed, M. Fournier himself has never seen 'Hutchinson's tooth' apart from inherited syphilis. In the section on osseous lesions the question of syphilis and rickets is discussed, and the late M. Parrot's view—that the latter is essentially syphilitic—is shown to be untenable. While fully recognising the frequency of rickets among syphilitic children, the author considers it to be simply due to the general disturbance of the constitution caused by syphilis.

The second and largest part of the book contains a full and systematic description of the manifestations of inherited syphilis as it affects the various regions and organs of the body, and of the manifold ways in which the disease may show itself at different periods of life. Stress is also laid on the frequency with which many of these affections have been called 'scrofulous' and on the disastrous results of treating them as such. Many valuable hints are also given on the differential diagnosis between syphilis and scrofula.

The third and last part of the volume deals with the subject of acquired syphilis in children, and the various points in which it resembles and differs from the inherited form of disease are fully noticed, as well as the many accidental ways in which a young child may acquire syphilis. Among these, however, M. Fournier does not include contagion during parturition, for the reason that a child born of a woman who has syphilitic lesions at the time of her confinement will itself be almost certainly syphilitic already.

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[*] An abstract of this portion of the work will be found in the London Medical Record for February 1885.

In concluding this brief notice of M. Fournier's admirable book—undoubtedly one of the most valuable and comprehensive accounts of inherited syphilis that have hitherto been published—it must be added that the work is written throughout in the author's well-known clear and practical style, and that it ought to be carefully studied by everyone who wishes to understand the present state of our knowledge on the subject.

Arthur Cooper.

Article 6100.

On Inversion of the Uterus with Eleven Cases Successfully Treated by the Sigmoid Repositor. A Postgraduate Lecture delivered at the Chelsea Hospital for Women. By James H. Aveling, M.D., Physician to the Hospital.

The lecture was published in the *British Medical Journal* of March 13, 1886. The number of communications the author received from medical men at home and abroad subsequent to its publication, led him to believe that its reproduction in a separate form might be acceptable to the profession. He has also taken the opportunity of correcting some errors and making several important textual and illustrative additions, which he hopes will render his method of reposition more intelligible and practicable. After dealing with the causes and the diagnosis of inversion, the author proceeds to narrate the various modes of reposition, and then gives in detail the history of eleven successful cases treated by his ingenious sigmoid repositor. The average time occupied in reinverting the uterus was forty hours, but there is little doubt that this average might be materially lessened if cases were of sufficient frequency to give any one operator a more extended acquaintance with the manipulative details. Dr. Aveling's last case only took nine hours. The lecture is well worthy of perusal, and in its present form will prove acceptable to everyone who may be called upon to treat one of these troublesome cases.

Arthur W. Edis, M.D.

Article 6101.

An Introduction to General Pathology: Founded on Three Lectures delivered at the Royal College of Surgeons, London, 1886. By John Bland Sutton, F.R.C.S., Sir Erasmus Wilson Lecturer on Pathology, Royal College of Surgeons, 1886; Assistant Surgeon, Lecturer on Comparative Anatomy, Senior Demonstrator of Anatomy and Assistant Curator of the Museum, Middlesex Hospital. London: J. & A. Churchill.

The name of the author of this work must be familiar to the readers of the London Medical Record. Mr. Sutton's observations on cysts in man and animals, and his remarks on the influence of leucocytes in the inflammatory process, have already been discussed by the reporter. This work consists of Mr. Sutton's writings brought together and carefully revised, not without the addition of original material. It is adorned with a fine series of woodcuts. The chapters on cystic disease are especial high value. On account of the high impo ance attached throughout to comparative patholo on which the author is a distinguished authority, *Introduction to General Pathology* must be reckon as one of the standard scientific publications the day.

Alban Doran.

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ERRATUM.

In the London Medical Record of Sept. 15, attention was called to an old blend of whisky; but, owing to an oversight, neither the name of the spirit nor of the blender was mentioned. The spirit alluded to is the 'Old Edinburgh Blend' of Mr. Wm. L. Murray, Argyle Place, Meadows, Edinburgh.

MISCELLANY.

The following prescription for Alopecia is taken from the *Canada Medical Record*:—Oil of sweet almonds and stronger liquor of ammonia, each one ounce; spirit of rosemary, four ounces; honey water, two ounces. Mix. This lotion is to be well rubbed into the roots of the hair, and the head afterwards washed with clear, soft water, rain water preferred.

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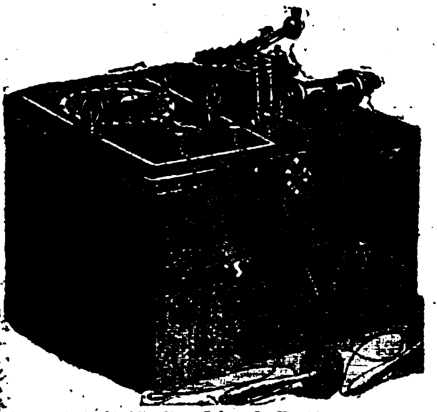

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ARTICLE 6102.

BALLANCE AND EDMUNDS ON THE ADVISABILITY OF NOT RUPTURING THE COATS OF THE VESSEL IN LIGATURE OF LARGE ARTERIES IN THEIR CONTINUITY.*

A SERIES of important observations have been made upon this subject, which has exercised the minds of surgeons in old times as well as the present. But there is no doubt that we possess now far greater security in the healing of the wound than formerly, and, therefore, such an inquiry is undoubtedly opportune.

From a carefully conducted set of observations, which had to be carried out in other than English laboratories, they arrive at the following conclusions.

1. That the operation of ligature to a large artery in its continuity should be performed without damage to its wall.

2. That the rupture of the coats of an artery during ligation in continuity is a useless and dangerous proceeding. Useless, because the surgeon can secure the effectual attainment of his object, viz., the occlusion of the vessel, by a measure at once safer and less severe; and dangerous, on account of the possible occurrence of some untoward event, such as hæmorrhage or secondary aneurysm at the seat of ligature, which could not happen if the wall of the vessel were uninjured.

3. That if the wall of the artery be diseased, the advantages attending ligation without rupture of the tunics are much magnified. It sometimes happens that the surgeon, on cutting down upon a large artery, observes a state of atheroma so extensive that he is obliged to close the wound and ligate a vessel nearer the heart, and thus expose his patient to increased risk. There is no escape from such a dilemma under the system which declares that the arterial coats must be divided; but with a non-irritating aseptic ligature, so applied as not to lessen the power of the arterial wall, but actually to be a source of additional strength to it where it is most desirable to preserve this quality, the question of ligation is seen under entirely new auspices. The occlusion of a diseased artery would now be undertaken with an assurance of success almost equal to that which obtains when a healthy vessel is in question.

4. That when the coats of an artery are uninjured by the ligature, the danger of ligation near a large collateral branch is wholly avoided, because (*a*) no danger can accrue from hæmorrhage when the wall of the vessel is intact; (*b*) the formation of clot, upon which the safety of the patient so much depends if the wall of the vessel be damaged, has really nothing to do with the adhesive changes which take place in a ligatured vessel; (*c*) the plastic actions which proceed at the place of ligation are practically alike whether the' tunics 'be ruptured or not. In the former case, however, any retardation in the constructive process (especially in the vicinity of a large collateral branch) on account of the general condition of the patient, or from accidental slight septicity of the wound, may be attended with grave risk of life. On the other hand, when the tunics are undamaged, the nearness of a collateral branch and suppuration in the wound are comparatively immaterial, and the reparation and adhesive efforts of nature, as seen in the effusion and organisation of lymph, develop, even when delayed, an additional stay to the living and unweakened arterial wall.

5. That the tendon-ligatures employed in this series of experiments were probably larger than was absolutely necessary to secure the obliteration of the vessels. It would appear that a small round aseptic ligature, which will not become absorbed in a less time than three weeks, and which during that period holds firmly so as to cause a constriction of the arterial wall, and complete or almost complete obstruction to the cavity of the vessel, will so influence the nutrition of the part that permanent occlusion will follow.

6. That it is no more necessary to use a flat tape-shaped ligature (as recently revived by Mr. Barwell for the purpose of preventing damage occurring to the arterial wall during ligation) than to rupture the coats of the vessel. The small round ligature is the most easy to manipulate, and it is not difficult to learn to apply it in the manner here indicated.

7. That the essentials to be observed in the ligature of arteries in their continuity are (*a*) complete antiseptic precautions to ensure the primary union of the wound; (*b*) a non-irritating aseptic ligature such as kangaroo tendon or chromic catgut, which will remain for a considerable period without becoming appreciably altered by the temperature and tissue-environment of the living body; (*c*) the application of the ligature so as to close or almost close the lumen of the vessel without causing the least injury to the arterial wall.

They sum up the paper by advocating—1, the employment of antiseptic precautions; 2, the use of the small round absorbable ligature; 3, the maintenance of the integrity of the arterial wall. Some important observations on this subject were made at the meeting of the Clinical Society on Oct. 22, and reported in the *British Medical Journal*, Oct. 30.

W. W. WAGSTAFFE.

ARTICLE 6103.

LE DENTU ON THE TREATMENT OF URETHRAL STRICTURE.

ON May 5, M. A. le Dentu communicated to the Société de Chirurgie, of Paris, two tables in which the results of internal urethrotomy and forcible rupture, practised each in twenty-four cases, were submitted to comparison. The internal urethrotomy in each case was performed with Maisonneuve's instrument, and the forcible rupture by Voillemier's instrument. The author confesses that all statistics on this subject must be defective. The only ground on which one can fairly judge the value of operations practised on the urethra, is that of the duration of the cure. It is very difficult, however, to obtain any reliable information on this point, either because it is very often impossible, after a time, to recover the traces of the patients, or because these have neglected to maintain the acquired result by periodical introduction of a bougie of proper size. It is maintained by M. le Dentu that in a very large majority of cases interrupted gradual dilatation is the best method of treating stricture, so long as there is an absence of certain contra-indications rendered classic by acquired experience. There is not any method of treating stricture which will ensure against relapse, or free the patient from the necessity of periodical introduction of a bougie for the rest of his life. Of the twenty-four cases in which internal urethrotomy was performed, two were fatal, and five had incomplete and seventeen satisfactory results. Death was due in one of the fatal cases to chloroform and, in the other, to double interstitial nephritis. In this latter case, the whole thickness of the anterior wall of the urethra had been divided by the urethrotome just above the arch of the os pubis, and a small quantity of urine had been extravasated above and in front of the solution of continuity. Of the cases of forcible rupture, two were fatal. In one of these cases, death was the result of an undoubted uræmic condition; and in the other the patient was *in extremis* when submitted to the operation, which was performed in order that the bladder, which contained a calculus, might be explored. In three cases only of forcible rupture were the results incomplete.

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* The Ligation of the Larger Arteries in their Continuity: an Experimental Inquiry. By C. BALLANCE, M.S., F.R.C.S., and W. EDMUNDS, M.C., F.R.C.S (*Medico-Chirurgical Transactions*, LXIX.).

Of the forty-eight cases of urethral stricture treated either by internal urethrotomy or by forcible rupture, four were fatal, showing thus a mortality of 8 per cent.; and in eight the results were incomplete, 16 per cent. In three-fourths only of these cases were the results satisfactory. Le Dentu points out, however, that he usually reserves the methods of forcible rupture and internal urethrotomy for the worst cases in his practice, and often risks operation under circumstances where other surgeons probably would refrain. It is held that in certain cases of stricture the same bad results would follow any plan of treatment. Internal urethrotomy is not such a harmless measure as is generally supposed, when the local lesions of the stricture and of cystitis have reacted on the renal organs. Forcible rupture is not so likely as internal urethrotomy to be followed by alarming hæmorrhage; and the dread of the former operation, by which many surgeons have been influenced, is not justified by the results of experience. Under the following circumstances, forcible rupture, M. le Dentu believes, presents a definite advantage over internal urethrotomy: (1) when the surgeon has to deal with attacks of urethral spasm impeding micturition, and resembling very much the condition that has been described by authors under the title of spasmodic stricture; (2) in cases of inflammatory stricture, accompanied by chronic urethritis; (3) in cases of elastic and retractile stricture, or of stricture which cannot be dilated beyond a certain point; (4) in cases of stricture complicated with urinary fistulæ and induration of the peri-urethral tissues, when this induration has not attained the condition of very thick and warty scleroma, so as undoubtedly to indicate external urethrotomy.

W. Johnson Smith.

A Chair of Orthopædics in Naples.—The Italian Minister of Public Instruction has officially established a chair of orthopædic surgery at the University of Naples, designating Professor D'Ambrosio for the first incumbent.

Article 6104.

HORSLEY ON BRAIN SURGERY.

In the *Brit. Med. Jour.*, October 1886, p. 670, is published Professor Victor Horsley's paper on his recent researches in brain surgery. The author starts by describing in detail the treatment of an imaginary case. The day before the operation the patient's head is shaved and washed with soft soap, and then ether; next the position of the lesion is ascertained by measurement and marked on the scalp. The head is then covered with lint (soaked in 1 in 20 solution of carbolic acid), oil silk, and cotton-wool, being thus thoroughly carbolised at least twelve hours before operation. The usual purgative is given the evening before, followed by an enema on the morning of the operation. The method of narcotising the patient is most important, and consists in the administration by hypodermic injection of a quarter of a grain of morphine, after which the patient is chloroformed. The morphine acts in two ways: 1, it allows of the performance of a prolonged operation, without the necessity of giving a large amount of chloroform; 2, morphine causes well-marked contraction of the arterioles of the central nervous system, a most important fact to be held in mind in operations upon the brain. Chloroform should always be used instead of ether, as it causes cerebral depression. The treatment of the wound is next considered, and here the author strongly advises strict Listerism; meaning by this the use of the carbolic spray, 1 in 20 carbolic lotion, and for the first few days, at any rate, dressings of carbolic gauze. The line of incision should not be cruciform, but, on the contrary, a semilunar flap should be raised and simply thrown back. 1. The incision must be carried vertically to the bone, and all parts superficial to the periosteum raised with the flaps. 2. The curve must be a shallow one, to avoid cutting collateral vessels. 3. It must be so drawn as not to divide the main arterial trunks supplying that portion of the scalp. The periosteum should be reflected by a crucial incision from an area corresponding with the first trephine-hole, and subsequently as more bone is cut away. One of the safest and most rapid methods of removing the bone is to make a couple of trephine-holes at the opposite extremities of the area to be removed, and then to half cut through the sides of such an area with a Hey's saw and, finally, to complete the division with a powerful bone-forceps. A trephine two inches in diameter is the most convenient size to use. Where it is possible to preserve the dura mater intact, the portions of the bone removed should be preserved in warm aseptic sponges, and at the end of the operation should be placed between the skin and the dura mater, having previously been divided into small fragments after the manner indicated by Dr. Macewen. The dura mater should be incised round four-fifths of the circumference of the area exposed, and at one-eighth of an inch distance from the edge of the bone, so as to render it possible to stitch the edges together afterwards. The dura mater is best opened first by a scalpel, and then by blunt-pointed curved scissors. The main branches of the middle meningeal artery are best secured by a ligature passed through the dura mater just outside its cut edge, and knotted before the vessel is divided. After the division of the dura, the first point to notice is whether the brain immediately bulges into the trephine-hole or not.

The brain bulging very prominently into the wound indicates pathological intracranial tension, and, other things being equal, it will indicate the existence of a tumour. After careful examination of the brain exposed, it is necessary to consider the mode of removal of a portion of the brain or tumour. The hæmorrhage from making an incision into the brain is not serious; a cut into the cortex must be made exactly vertical to the surface, and directed into the corona radiata. When a portion of the brain is removed, the floor of the pit bulges almost to a level with the surrounding cortex. In addition the cut edges become slightly everted, and if less brain than bone be removed, they are extruded into the opening into the skull. All oozing, &c., having been made to cease by gentle pressure with a soft sponge, the flap must be laid down and secured with medium silk sutures at distances of one centimètre, and between these, horsehairs. With regard to the drainage of the wound, the author considers twenty-four hours sufficient drainage, as union by first intention must be aimed at, and this must be accomplished within five days. A certain amount of wound-tension is necessary to secure pressure on the brain which is tending to protrude. During the first twenty-four hours there is a steady oozing of blood and serous fluid from the cut surfaces. This is removed through the drainage-tube placed at the most dependent point of the incision. The tube is then taken out and the wound is carefully dressed, firm but gentle pressure being made over the centre of the flap. If on the third day there is too much tension noticed, and there is danger of it breaking down primary union, the pressure can be relieved by opening up the track of the drainage-tube with a probe, and liberating some of the exudation. At the end of five or seven days the wound may be lightly dressed with powdered boracic acid, cotton wool, and collodion. At the end of a week the stitches may be removed. Four cases have been now operated on by Professor Horsley in which he has removed a cerebral tumour with complete success. RICHARD NEALE, M.D.

ARTICLE 6105.

ERLENMEYER ON THE TREATMENT OF EPILEPSY.

DR. ALBRECHT ERLENMEYER, in a recently published treatise entitled *Die Principien der Epilepsie Behandlung* (and *Deutsche Med. Zeitung*, 1886, p. 516; and *Der Fortschritt*, June 20) (Wiesbaden: J. F. Bergmann. 1886), considers a precise causal diagnosis as indispensable for the rational treatment of epilepsy. Above all, it ought to be ascertained whether the malady be congenital or acquired. In the first case it is incurable, especially when combined with deformities of the skull, abnormal formation of the roof of the palate, and other signs of arrested development. Acquired epilepsy may be amenable to treatment. In cases of the latter kind, the cause of the disease has to be elicited. This inquiry, if the anamnesis itself do not furnish sufficient information, may be solved in two ways; first by a most detailed examination of the body, and also by investigating all the circumstances and symptoms preceding and accompanying the first fit and probable aura.

Epilepsy, when caused by disease of the brain, manifests itself in two characteristic types, as epilepsy after a diffused cerebral affection, and as epilepsy after a circumscribed pathological process—'Jackson's epilepsy.' In the latter form, convulsions are limited to one side, and show almost always a certain regularity of symptoms. The focus is aways histologically manifest; Jackson's epilepsy, therefore, can never be caused by a mere functional disturbance of circumscribed portions of the brain. There are most frequently either exudative residua of a meningitic 'herd'—(mostly in children)—or syphilis (in adults), besides traumatic lesions, echinococci, and solitary tubercles. Jackson's epilepsy is frequently combined with hemiplegia or monoplegia of the affected side. These forms of paralysis are often but very slightly perceptible. The author, therefore, in every case of Jackson's epilepsy, tests with the dynamometer the muscular power of both hands and legs, which is of great importance in the diagnosis of this cortical epilepsy.

There are cases in which the epileptic fits, in the commencement of the disease, are strictly confined to one side, but in its further development become general. In such patients, mostly of juvenile age, the author makes the diagnosis of meningitis, which in the commencement was localised but afterwards became diffused, and dismisses the suspicion of the presence of a cortical focus. In other cases, the convulsions migrate to the other side, in which a wandering meningitis (?) may be presumed.

In acquired epilepsy, in consequence of diffused affections of the brain, those of traumatic origin—from the severest lesions to a mere box of the ear—are of paramount importance. In these, circumscribed disturbances of sensibility are very common. They may apparently regularly be traced to the first period after the injury, but do not persist in every case. The author estimates these circumscribed alterations of sensibility—frequently anæsthesia, but likewise hyperæsthesia—as equivalent to Brown-Séquard's 'epileptogenic zone.' Such a zone very frequently occurs on the scalp and on the genitals. Patients of the latter category suffer epileptic attacks during coitus, during pollutions, often from mere erection. In case of a definite, always equally localised sensible aura, the test of sensibility of the affected portion of skin ought never to be omitted. If the result of this examination be positive, it will always be advisable to attempt to call forth a fit by irritation of the zone with a faradaic brush or by thermic stimuli, which, if successful, will remove every doubt about the causal connection. Very characteristic of epilepsy caused by concussion of the brain is unilateral or bilateral pain, produced in almost every case from pressure on the cervical sympathetic. This pain is mostly localised to the superior ganglion; sometimes, however, the whole cervical tract of this nerve will be painful. Slight pressure of the fingers will suffice to elicit this symptom. It will always be accompanied by vaso-motor disturbances, or easily varying arterial tension, frequent flushing, vertigo, headache, spectral rings, flashes and sparks, noises in the ears, abnormal perspiration, &c. As a frequent direct cause of this kind of epilepsy, the author points out—and most emphatically warns against—cuffing of the child's head and boxing the ears, which erroneously is considered by many a very mild form of punishment.

In epilepsy caused by diffused cerebral disease, besides the concussion of the brain, increased intracranial pressure is of etiological importance, not so much from the intensity of the pressure as from its continuance, leading to diffused exudations, impressions on the bones of the skull, disease of the base, and intracranial neoplasms of every kind and seat.

The treatment of Jackson's epilepsy will be guided by the accurate diagnosis of the primary cause of the disease. When it is brought on by a traumatic injury, and dependent on a splinter of the bone lodged in the brain, or a depression of the fracture, trephining has to be resorted to in order to remove the impacted splinter or foreign body, or the depressed bone has to be raised. The same operation has to be performed for the removal of an echinococcus cyst. When it is caused by syphilis (gumma or circumscribed meningitis), an energetic and repeated antisyphilitic treatment will be indicated. The author obtained equally satisfactory results from mercurial friction as from iodide of potassium or aqua chromida, and frequently combined mercurial frictions with the internal use of iodide of potassium, alternating the latter with aqua chromida. Iodide of potassium is always combined with bromide salts, *i.e.* dissolved in Erlenmeyer's aqua bromida. In operative cases the author likewise continues the internal use of aqua bromida for several weeks after the operation, in order to alleviate the irritation of the cortical substance of the brain, which often shows a tendency to subside after the removal of the primary cause of the disease. In circumscribed meningitic exudations, iodide of potassium in aqua bromida for adults, and syrup of iodide of iron for children, yielded the best results. Hemiplegic and monoplegic affections, which are associated with epilepsy, ought at the same time to be treated with great caution, first by gentle massage, then by sharp muscular exercise, and finally by careful faradisation.

The treatment of epilepsy in consequence of diffused cerebral disease is, under similar circumstances, the same as that of Jackson's epilepsy (trephining, antisyphilitic remedies); neoplastic tumours of the bones and dura mater may, under certain conditions, be removed by an operation. In basal affections the author recommends setons, besides iodide of potassium. Epilepsy caused by concussion of the brain, and accompanied by the above-mentioned sensory and vaso-motor disturbances, is often favourably influenced by a constant current (galvanisation of the sympathetic); for which purpose accurately constructed apparatus, producing uninterrupted, precisely measurable currents, are indispensable. In these cases the author, moreover, prescribes ergotine. If there be any hyperæsthetic (hyperalgic) patches on the skull or on the genitals, a descending galvanic current ought to be carefully applied, and faradisation in case of diminution of sensibility.

Another group of cerebral epilepsies comprises those forms which originate from vaso-motor and toxic disturbances: viz., from chronic impairments of nutrition, from hyperæmia and anæmia, or from intoxication by alcohol and carbonic acid.

Persons affected with abdominal plethora are liable to epilepsy from chronic cerebral hyperæmia. Insufficient bodily exercise, too abundant diet of fats, and excessive mental work, lead to the development of this disease, which is most frequently met with in scholars, authors, and other persons of sedentary habits. The attacks seem to occur more generally during the night, wherefore the disease often remains a long time undiscovered. A rational anti-fat cure, always carried out under medical direction, restriction of or temporary abstinence from brain-work, and gradually increased exercise, will prove the best prophylactic as well as curative treatment. The author, however, found this form of epilepsy also in artisans, and repeatedly in butchers. Abuse of alcoholic drinks, especially of beer, forms an additional predisposition.

The group of epilepsies from cerebral hyperæmia includes also that after sunstroke, and after some acute zymotic diseases, especially after scarlatina.

Epilepsy from cerebral anæmia is frequent among the working classes, especially servants (epilepsy from exhaustion).

The author very frequently met with this form of epilepsis in patients of juvenile age (12 to 16), both in boys and in girls. The causes may be premature menstruation, and, especially in boys, rapid growth with consecutive anæmia and an unfavourable hygienic condition of the school, to which, and not to mental overwork, the author ascribes the injurious effects of compulsory instruction in public schools. Menstruation is of the highest vaso-motor moment. Epilepsy during pregnancy is also mostly of vaso-motor origin. In some cases, it may be traced to the formation of osteophytes and pressure on the brain. Such rare cases, however, will be characterised by violent localised headache, which will assist the diagnosis.

Among the forms of epilepsy from intoxication, that from abuse of alcohol is the most frequent. After complete suppression of this cause, the author recommends opium, which in these cases is more efficacious than salts of bromine. Systematically regulated bodily exercise and work will materially assist the treatment.

The author ranges some of the forms of 'nasal epilepsy' among the epilepsies from lead-intoxication. He thinks that not all these cases ought to be considered as reflex neuroses, but that they are partly caused by hyperæmia, which spreads from the inflamed mucous investment of the nasal cavities to the frontal cavities and to the nearest portions of the brain, and is properly due to intoxication by carbonic acid. They are characterised by frontal pain or pressure, spectral sparks and flashes, impaired sleep, &c. This group comprises likewise those forms of epilepsy which arise from neoplasms at the vocal chords. These are accompanied by violent dyspnœa, and require removal of the obstruction of the air-passage (by cauterisation).

All these forms merge into the large group of reflex epilepsies. They may arise from multifarious causes, which have to be carefully investigated, viz., from carious teeth, which, however, need not in every case be painful, or from badly adjusted and pressing stuffing, &c. Roots and carious stumps ought to be extracted without delay. 'The aura in these cases is frequently perceived in the tongue, as a peculiar itching or pricking sensation, a varying sensation of heaviness to complete immobility of the tongue, or an involuntary curving backwards of this organ. In every case, the ears ought to be likewise carefully examined.

The author finally mentions the group of emotional epilepsies, which, contrary to the hitherto described forms dependent on somatic causes, are brought on by psychical influences, which are either acute, viz., sudden unexpected joy, fright, anxiety; or chronic, viz., grief, care, mental overwork. The author maintains that there must be always abnormal condition of the body predisposing such injurious effects of emotions.

The author, warning against a generic treatment of epilepsy, lays down the following general rules. In prescribing bromides, care ought to be taken to keep up the absorbent action of the digestive organs. Bromides ought to be administered with great caution, much diluted, in warm water, in small frequently repeated doses, and never on an empty stomach. The patient ought to take more frequent, though always small meals. Every kind of food containing tannic acid, *e.g.* coffee, tea, red wines, &c., are prohibited. Of alcoholic beverages, only beer in small quantities is permitted. Vegetable food is preferable. Complete abstinence from smoking is advised. The excretions ought to be carefully regulated. Micturition is augmented by bromides taken in soda water. The cutaneous action is assisted by the systematic use of warm baths. Frictions with soap will nearly always prevent the eruption of acne. The skin ought not only to be completely lathered with the soap, but also energetically rubbed, kneaded, and shampooed. Free admission of fresh air during day and night, out-door exercise, easy, comfortable dress, avoidance of tight collars and of constriction of the body by waist-belts, stays, and trousers, are of the highest importance.

FERD. ADALB. JUNKER, M.D.

ARTICLE 6106.

LESER ON THE TREATMENT OF CONGESTION ABSCESSES IN TUBERCULOUS DISEASES OF THE SPINE AND PELVIS.

IN a paper read by Leser, of Halle, at the Fifteenth Congress of the German Society of Surgery, and reported by Kramer in the *Centralbl. für Chir.*, No. 24, 1886, it is stated that, in the surgical clinic at Halle, congestion abscesses associated with tuberculous disease of the spine and pelvis are freely opened as soon as fluctuation is distinctly made out, even when, as not unfrequently happens, the collection is deeply seated. After the opening has been washed out with a warm antiseptic solution, usually of boracic or salicylic acid, a thick drainage-tube is introduced, and the incision closed by sutures and dressed antiseptically. If it be possible, a counter incision, through which drainage is also kept up, is made in the neighbourhood of the diseased vertebra. The abscess-membrane is scraped away with a sharp spoon as far as it can be seen.

From 1873 to the end of 1884, fifty-eight cases of congestion abscesses were thus treated at Halle. Of these, fifty-three were cases of abscesses from spondylitis with angular curvature, and the remaining five were cases of tuberculous disease of the pelvis, especially sacro-iliac disease. In none of these cases was death directly due, it is asserted, to the operation. In twenty-three cases the wound healed by primary intention, and remained closed. This permanence of the healing is an indication that the morbid process in the bone has been arrested. If it were not so, a fistula would be inevitable. In thirty-five cases a fistula was established. Such a result, it is held, may be regarded as beneficial, as, in the place of a large abscess-cavity enclosed within the body, and existing as a constantly threatening source of active and passive infection, the surgeon has in most of such cases to deal with a rapidly contracting and scantily secreting channel, which is well adapted to bring about a definite arrest of the primary disease. In some cases, the formation of a fistula was the result of too early removal of the drainage-tube. For some days after the operation there is usually an abundant discharge in the dressings and in the drainage-tube. This discharge, however, the author states, consists not of freshly secreted fluid, but of the original contents, part of which, having been collected in irregularly shaped prolongations of the abscess-cavity, had not been washed out by the antiseptic injection. Another cause of such discharge may be a solution of the tuberculous membrane lining the cavity of the abscess. It is necessary, therefore, in the early stages of the after-treatment, to change the dressings frequently, and also, at each change of dressing, to wash out the drainage-tube. A rapid healing of the incision should, as a rule, be avoided, lest the secretion collect and become retained, and necessitate re-opening of the wound. In cases in which a fistula has been established, it is necessary to maintain the strictest antiseptic precautions in the dressings, for neglect in this respect is likely to be followed by profuse suppuration and febrile symptoms, as often observed in patients after their discharge from hospital.

In sixteen cases, the abscess was situated near to the diseased vertebra, and formed a tumour under the dorsal muscles. In seventeen cases it reached the skin in front above Poupart's ligament, and internal to the antero-superior spine of the ilium. The opening into an abscess of this kind should be made, like the incision in ligature of the external iliac artery, parallel to and a little above Poupart's ligament. In eighteen patients the abscess presented below Poupart's ligament, its situation corresponding to that of the psoas muscle on the inner side of the thigh. Finally, in a small group of seven cases, the abscess had passed beyond the pelvic cavity through the great sciatic notch and descended along more or less of the posterior surface of the thigh. This form of abscess often requires simultaneous multiple incision. In nine of the total number of cases bilateral abscesses were observed.

On inquiry into the subsequent condition of fifty-four patients after their discharge from the hospital it was found that twenty had died. Of these, twelve, all of whom were above the age of 10, succumbed to pulmonary tuberculosis; of seven patients, who were children, four died from profuse suppuration and three from tubercular basilar meningitis. As in seven of the fifty-eight cases no information could be obtained of the subsequent condition of the patient, Leser calculates that the rate of mortality is about 40 per cent. This, he states, is to be regarded as a very good result, if compared with those of other statistics, since tuberculous spondylitis, when associated with abscess, is undoubtedly the most serious form of this affection.

W. JOHNSON SMITH.

OBSTETRICS IN VIENNA.—According to Professor Braun's statistics, there have been during the past twenty-nine years at the Vienna General Hospital 108,889 confinements, with a mortality of 1,945, or an average of seventeen to every thousand. The death-rate has been reduced, by sanitary improvements and the introduction of the antiseptic system, from twenty-eight in every thousand in the first six years to seven, and in 1883 even to two in every thousand cases.

ARTICLE 6107.

PENZOLDT ON HEMIATROPHIA FACIALIS.[*]

CASES of one-sided facial atrophy are rare, only about sixty having been hitherto published.[†] Professor Penzoldt, of Erlangen, relates the two following.

A woman, aged 31, struck the left side of the face near the outer angle of the orbit against a door three years ago. One and a half years later she experienced continual pain and a feeling of coldness in the left side of the face, with a dragging cramp-like sensation in the left temporal region, and, in addition, giddiness and ticking in the left ear. For the past year she had noticed that the left side of the face was thinner than the right, and especially that there was a falling in of the left cheek, and for the last six months there had been white patches on the skin. During the past few months the cramp-like dragging sensations had come on in paroxysms several times daily, and had been excited by the action of chewing or other irritation. The patient could now no longer chew on the left side, nor open the mouth fully. Since she had been treated by galvanism, the wasting of the face had diminished.

Physical examination in February 1886 gave the following results. The patient was a small, slightly built woman, healthy in all respects except the condition of the face, the two sides of which presented a marked difference in volume. The left side was evidently wasted, the normal lines were deeper and more marked and the skin paler, so that it appeared to belong to an older and thinner person than the right. Over the zygoma was an irregularly shaped area of skin of a white, glossy, cicatricial appearance, traversed by a few dilated vessels. Similar, though less marked, patches occurred on the lower eyelid, at the inner angle of the orbit, on the temple, near the supra-orbital foramen, and on the upper lip. No difference could be detected in the facial muscles, either when at rest or in action, except a continuous fibrillary twitching in the left masseter. She could not open the mouth fully, and the attempt to do so caused an attack of severe pain, lasting several minutes, and proceeding from just in front of the ear towards the temple and the lower angle of the jaw. At the same time, one noticed a tonic contraction of the left temporal and masseter muscles, alternating with clonic spasms. Sensation was the same on both sides, as was also the condition of the vessels, and the secretion of sweat and of saliva as tested by pilocarpin. *The reaction of the muscles to galvanic and faradic currents was normal.*

There can be no doubt of the correctness of the diagnosis, although the wasting had only advanced to a moderate degree. For this, there are several reasons; first, the short duration of the disease; secondly, its onset during adult life, when the process of development and growth has ceased; and thirdly, the slight improvement that had taken place. Of this improvement there seems to be little doubt, and in this respect the case forms a contrast to the majority of hitherto recorded cases. The steady increase of the wasting is, as a rule, so constant as to earn for the disease the epithet of 'progressive;' and in those few instances where the process has come to a standstill, the wasting had already reached an advanced degree. Bärwinkel,[*] however, records two cases where improvement took place.

Another point to which special attention should be directed, is the occurrence of sensory and motor as well as trophic disturbances. The sensory affection was shown by the persistent neuralgia, and was limited to the distribution of the inferior maxillary division of the fifth nerve. The motor disturbance consisted of fibrillary twitchings and spasms, and affected the muscles of mastication. These considerations, taken together with the presence of atrophy of portions of skin and subcutaneous cellular tissue, point strongly to an affection of the third division of the fifth nerve as the essential pathology of the disease. And, further, if special and separate trophic nerves exist, it would point to the supposition that they run, in this district, in the trigeminal nerve-trunk.

The onset of the disease as late as the thirtieth year is unusual. The occurrence of an injury as the exciting cause has also been noticed in cases reported by Stilling, Hering, Anjel, and others.[†]

The second case—much less marked—occurred in a woman aged 28, and affected the right side of the face, which measured 10·5 centimètres from the tragus to the nostril on the right, and 11 centimètres on the left. There was no history of injury in this case, but in January 1885 there was an ulcer on the upper jaw, which eventually healed and left an indurated cicatrix close below the zygoma. The right cheek was thinner than the left and the skin covering it pale. It felt cold and dead. The face in the infra-orbital, buccinator, and parotid regions on the right side, appeared somewhat sunken. The muscles were not atrophied, and did not show fibrillary contractions. The reactions of nerves and muscles to both galvanic and faradic currents were normal.

H. HANDFORD, M.D.

ARTICLE 6108.

GOWERS ON ATAXIC PARAPLEGIA.

IN the *Lancet*, July 1886, pp. 1 and 61, Dr. Gowers publishes a clinical lecture on two cases of what he terms 'Ataxic Paraplegia.' This disease is much more frequent in men than in women, and is a disease chiefly of middle adult life. Neurotic heredity is rare; it is also rare to have a history of syphilis. Among existing causes, exposure to cold is common; also mental distress and anxiety, coupled with over-exertion. An injury may also be the primary cause of this disease, but symptoms do not develop for some time after the injury. The onset of the disease is always gradual, and the progress slow. Even when it is steadily progressive—at no time stationary—years may pass before the power of walking is lost. Very rarely, the author has known the disease to attain a considerable degree of intensity in a few months, but as a rule the symptoms take about ten years to develop to any degree of severity. The legs in almost all cases are the first to be affected, and symptoms may remain limited to these throughout, or may afterwards invade the arms in various degrees.

The characteristic feature of the disease is a slow and simultaneous development of two symptoms—defect of power, and defect of co-ordination. The patient first observes that he tires more readily than before, and soon notices some unsteadiness when he turns suddenly, when he walks in the dark, or on an uneven pavement. The legs may ache a little, but they never have any sharp pains like those of tabes. The motor symptoms slowly increase, and on examination it is noticed that the flexors are weak, especially those of the hip. The inco-ordination is more easily detected than the weakness. The patient's gait is distinctly unsteady; if he turn quickly he reels, and has to bring his foot suddenly to the ground to maintain his equilibrium, and to save himself from falling. If the feet be bare, the irregularity of the muscular contractions is shown by the quick movements of the tendons on the dorsum of the foot. Lightning-pains are absent, and sensation is not impaired upon either limbs or trunk. Reflex action from the sole is perfect, and is commonly excessive. The knee-jerk is increased, and a foot-clonus is easily obtained. Sexual power is often early lost. The sphincters are frequently impaired, sometimes early, but never to a marked degree. As a rule, the mental state is either normal, or there is merely slight failure of memory. Undue frequency of the pulse is occasionally present, but is less common than in tabes. As the disease progresses the paralysis increases, and the inco-ordination sinks into the background. The aspect of the patient comes to be that of spastic paraplegia; the feet drag as the patient walks, shake with clonus when he stops, and the legs are hauled forward with visible effort at each step. The disease has little tendency to cause death. The chief danger to life is from accident, and kidney-disease from retention.

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[*] Neuro-und Myopathologische Mittheilungen aus der Erlangen Med. Klinik. Von Professor Dr. Penzoldt. (*Münch. Med. Wochensch.*, April 6, 1886.)

[†] Vergl. die Zusammenstellung von Lewin. (*Charité-Annalen*, Band ix.)

[*] *Archiv der Heilkunde*, Band ix.

[†] *Deutsches Archiv für Klinische Medicin*, Band xii., p. 608.

The pathological anatomy of this affection is not well known, but in all cases the spinal cord has presented sclerosis of both posterior and lateral columns. As a general rule, the sclerosis of the posterior columns differs from that of tabes in two particulars. 1. It is not more intense, and often less intense, in the lumbar than in the dorsal region. 2. The sclerosis has rarely the special intensity in the root-zone of the postero-external column that characterises the lesion of tabes.

As to treatment, the most important step is to exclude all those influences that are capable of producing the disease. The most important are—exposure to cold, exhausting fatigue, falls, and alcoholic or sexual excess. Drugs may do good to a slight extent; but rubbing, especially in an upward direction, has more influence over spasm than all other forms of treatment. The author concludes by drawing attention to the necessity of attending to the state of the bladder, and urges the use of the catheter as soon as it is noticed that there is any residual urine. Richard Neale, M.D.

Article 6109.

IMMERMANN ON RHEUMATISM.

At a meeting of German scientists and physicians, held in Berlin, Professor Immermann, of Bâle (*Deutsche Med. Wochensch.*, No. 41, 1886), treated of rheumatism. After alluding to the still vague and often false use of the terms rheumatism and rheumatic, he expressed the hope that his remarks might lead to some understanding with regard to a more correct use of the terms. Rather than abolish the expression, he would let it convey a new meaning, or at any rate limit its use. This has already been done with such terms as typhus and tuberculosis. Rheumatism would then apply to a more limited circle of pathological occurrences, within which there should be at least the same pathogenesis and, if possible, the same etiology. To this end he chooses for the point of departure and centre at once that rheumatic affection, which is not only the most important, but about which at present there is such divergence of opinion—viz., acute articular rheumatism. The latter is no longer considered as the result simply of cold, but, like croupous pneumonia, as a general disease owing to infection. Thus the pathogenesis of all cases of rheumatism would be infection. He does not expect this to be at once generally accepted, but believes that agreement on this point is not impossible. Whether the infectious agent is always exactly the same, the microphyta always belonging to the same botanic species—whether, in other words, all cases of articular rheumatism have the same etiology—may be more doubtful, since in some cases the otherwise so effective specific, salicine (salicyl), fails to give relief. Yet at least by far the most numerous cases of polyarthritis appear to be a specific disease, and are therefore very probably etiologically identical. The question then arises to what extent the term rheumatism may be applied without fear of introducing anything heterogeneous. Are we to include only clinically well-marked and undoubted cases with fever, multiple articular affection, and eventual heart complication affection, or others as well, which do not correspond with or even differ from polyarthritis as described in the handbooks? Professor Immermann has some time ago, while lecturing on what he calls 'masked' articular rheumatism, expressed it as his opinion that the etiology of polyarthritis is something more than symptomalogical. To determine what is equivalent to polyarthritis, he points to certain peculiarities of specific processes of disease, peculiarities which may indeed find their expression in symptoms, but still more in the individual, local and periodical occurrences of such diseases, as well as in the results of a specific treatment.

Applying these tests, it will soon be seen that, in addition to the usual cases of articular rheumatism, there are a fair number of other diseases which, from one or another of the above given reasons, may be classed in the nosology of specific rheumatism. To such belong naturally all cases which exhibit, in addition to the well-known trio of symptoms of articular rheumatism, fever, acute pains in the joints and heart affection, other localisations and symptoms of general disease—*e.g.* muscular pain or neuralgia, pleuritis or nephritis, symptoms of chorea, &c. On the other hand, cases may be included in which one or the other of the three chief symptoms of ordinary polyarthritis are altogether wanting or only so rudimentarily present that the clinical appearance is and remains imperfect. Even the handbooks lay stress on the fact that the heart affection may be and often is wanting, and hence it is, not quite correctly it is true, termed a complication of articular rheumatism. But sometimes there is little or no fever, and in such cases there is not the usual acute pain in the joints, but one of a more torpid nature. These torpid cases, of a dragging and often fluctuating character, present frequently this further peculiar feature, that the muscular symptoms are spread over a wider area and even predominate over the arthritic symptoms, a state of things varying considerably from the usual description of rheumatism. Yet these cases prove that they belong to the category of specific rheumatism, in that (1) they affect with striking frequency such persons as have had one or more regular attacks of acute articular rheumatism and have consequently acquired valvular disease; (2) often during their continuance endocarditis is developed (more or less quickly) and then either retrogresses or becomes chronic; (3) if such torpid cases become violent they are affected by the specific treatment of acute articular rheumatism and in a quite similar specific manner. Hence there can be no reason for excluding such cases from the term specific rheumatism. The same may be said of other cases, very different from this just mentioned, in which specific rheumatism appears simply as acute endocarditis. Here the course is quite similar to that of articular rheumatism, complicated with endocarditis, especially in the tendency to leave valvular disease, and it is noteworthy that sometimes hitherto quite healthy subjects are so attacked at times when acute articular rheumatism is epidemic. Such cases occur amongst the larger number of regular cases of the disease, and differ from the latter only by the absence of arthritic affection. Often, by the way, as if to completely justify the diagnosis 'rheumatism,' one or more joints subsequently become affected; but even without this their epidemic character and the specific effect of anti-rheumatic treatment justify the assumption that such cases are equivalent to acute articular rheumatism. More frequently, however, we meet with the results of simple rheumatic endocarditis than with the latter itself in the form of valvular diseases of the mitralis, and less frequently of the aorta. For in young persons, in whose case atheromatosis, the other cause of chronic valvular disease, is not to be thought of, valvular disease is found without its being ascertainable that there has been rheumatism. Still, such must have sometime recovered from an acute or more torpid attack of endocarditis. And very likely it will be found that there has been a rheumatic infection, which, while sparing the joints, attacked the endocardium of the valves. This will become the more probable if such patients eventually suffer from genuine articular rheumatism, as is often the case.

Further, genuine pericarditis sero-fibrosa with fever, but without arthritis, has been observed in a few cases to develop under circumstances which made it certain that the cause was acute rheumatic infection; for such cases occurred at a time of an epidemic of acute articular rheumatism, and yielded to an anti-rheumatic treatment in the specific manner. Thus in these cases and in analogous ones of acute simple endocarditis, the otherwise most common and striking of the three chief symptoms of acute rheumatism, arthritis, is wanting. So to speak, it is polyarthritis sine arthritide, just as there are also cases of acute exanthemata (scarlatina, measles) sine exanthemate. These cases of rheumatism of the heart, without arthritis, form at the same time the transition to the 'masked' forms of articular rheumatism.

In these latter cases symptoms prevail which, while not absolutely foreign to common arthritic rheumatism, are of comparatively rarer occurrence; and, on the other hand, the usual symptoms, particularly the affection of the joints, are either wanting or of secondary importance. The term 'masked' was chosen in order to bring such cases into direct connection with a well-known analogous symptom, and the description applicable to malarial infection. For, as not unfrequently under the influence of malarial infection 'masked' intermittent fever arises in the form of neuralgia in the place of the ordinary fever paroxysms, similarly there is rheumatic neuralgia, in the stricter sense, which is a clinical equivalent of acute articular rheumatism. Such specific rheumatic neuralgia occurs most frequently in the tracts of the trigeminus, but also in other nerves, *e.g.* the ischiatic, and may be complicated with fever or not. Their connection with specific rheumatism is attested in various ways, for sometimes they are met with in persons who have already suffered from acute rheumatism, or occur during an epidemic. Sometimes they are complicated with endocarditis, at other times arthritis follows them, when the 'mask' is thrown off. But in all cases—and this is the important point—they promptly yield to a specific anti-rheumatic treatment.

There is also a spastic form of the masked articular rheumatism. The following case is given. A medical friend of Professor Immermann's, living near Bâle, fell ill with much fever, followed by a painful stiffness of the neck proceeding from a contraction of the sterno-cleido mastoid and of the cucullaris. There were no other symptoms. The patient feared cerebrospinal meningitis, though no such case was known to be all round Bâle. But acute articular rheumatism was there epidemic at the time, which led Immermann to suspect this to be a case of acute rheumatism in spite of the absence of arthritis. He therefore advised the taking of some doses of antipyrine (4·0 in twenty-four hours). The next day already the fever and stiffness of the neck had vanished, and recovery began.

Amongst the affections which should not be classed as rheumatism, or whose position is at least doubtful, Professor Immermann mentions the following:—Rheumatoid affections of patients subject to gonorrhœa and scarlatina are not rheumatic because their causes are specifically different, nor do they answer to the criteria mentioned above. He excludes also the rheumatoid affections accompanying bronchitis, hæmophilia, purpura, and the so-called peliosis rheumatica. So-called rheumatic tetanus is considered to differ from rheumatism with regard to the cause of infection. The position of Landry's paralysis and the less common but cognate 'poliomyelitis acuta anterior ascendens adultorum' is very doubtful. JOHN ELLIOTT.

ARTICLE 6110.

HASTRUP ON THE DISEASES OF NORTH GREENLAND.

IN the *Hospitals Tidende* of Copenhagen, Aug. 11 and 18, we have a paper by Dr. M. Hastrup on the diseases of North Greenland, the district between 67° 55′ and 73° north latitude. The inhabitants of this vast country are scattered along the shores and islands of Davis Straits and Disco Bay. They are reckoned to number in all 4,328 individuals, among whom there are 204 more women than men. In Upernivik, the highest inhabited latitude of Danish America, there are 800 inhabitants. The original Esquimo race has become so much mingled with European blood that Dr. Hastrup assures us there is now scarcely a pure Esquimo to be found in North Greenland. During the nineteen years between 1865 and 1884 the population was found to have increased by 350 persons. During this time there were born 2,780 children, among whom were 40 more girls than boys, the number of births being 3·4 in every 100 of the population. This proportion differs little from what we have in the rural districts of Denmark or Scotland. The number of deaths during 19 years was found to be 2·7 per cent. The mortality in North Greenland was greater in some years than others. In the 14 years during which there were no epidemics the mortality was 2·3 per cent., and in six years in which there were epidemics it was 4·4 per cent. The following table gives the deaths at different ages.

	0—5 years.	5—15 years.	15—35 years.	35—55 years.	over 55 years.
	per cent.	per cent.	per cent.	per cent.	per cent.
1879—84	21·8	7·2	30·8	22·7	17·6
Epidemic year 1881 alone	19·2	7·8	28·2	21·7	23·3
1879—84 ÷ 1881	23·1	6·8	32·0	23·2	14·9

Cases of old people are not common, as the Greenlander has a hard struggle to live under great fatigue and exposure, and falls into a wretched condition when he has to depend upon the charity of others. Phthisis, which is very rare in Iceland, is extremely common in Greenland. Professor Lange has already calculated the deaths from this disease in the whole of Greenland to amount to 62 per cent. of the total mortality, and Hastrup estimates it as 70 per cent. in North Greenland. He thinks that the prevalence of phthisis amongst the Greenlanders is owing to the bad ventilation of their miserable huts. It appears from the returns from 1880 to 1884 that the deaths are distributed pretty equally over the year, though in general they are less frequent during the warmer months. The fewest deaths occur in July, and the most in January. Hastrup has not been able to obtain statistics of the first years of life, and owing to the scattered population and other difficulties the causes of death were often not correctly ascertained. There were on an average eleven accidental deaths a year, principally from drowning and falls on the ice.

In the years 1865, 1867, 1871, 1872, 1876, and 1881 there were epidemics in North Greenland. In 1865 diphtheritis appeared, causing 3·14 per cent. of the whole annual mortality. The most characteristic disease in Greenland is an aggravated form of influenza. This disease appeared as an epidemic in 1867, 1871, 1872, 1876, and 1881. In 1867 it was said to be the cause of 55 per cent. of the whole mortality. Probably many inflammatory affections of the chest were included under this head. In 1871 measles were seen for the first time in North Greenland. Dr. Pfaff treated 67 patients, of whom seven died. In ten years Dr. Pfaff had 2,600 patients. In the diseases enumerated by him we do not find any mention of affections of the liver and kidneys, so we may suppose that these are not frequent. Rheumatism is present principally in the chronic form, but heart-disease does not seem to be common. Venereal diseases have been introduced by the whale fishers.

Idiocy was not met with, and there were only three doubtful cases of insanity, taking the form of melancholia. Now and then there are cases of suicide amongst the Greenlanders. Giddiness is a common affection in Greenland, attributed by some to the enormous consumption of coffee, which is estimated at 2½ ounces a day per head, but Dr. Hastrup has met with cases where the patients did not use or did not obtain coffee.

It appears that the civilising influence of the Danish Government has reached these remote places, the utmost confines of the habitable part of the globe, and that the products of the tropics and the resources of scientific medicine go to soften the lot of the dwellers in the dreariest regions of the earth. W. W. IRELAND.

ARTICLE 6111.

POULET ON THE TREATMENT OF HYDATID CYSTS OF THE LIVER.

IN a contribution to the *Revue de Chirurgie*, No. 6, 1886, on 'New Methods of Dealing with Hydatid Cysts of the Liver,' Professor Poulet, of the Val-de-Grace, reports a case under his own care which was submitted to laparotomy, and gives a table of 51 collected cases in which different plans of treatment had been carried out. The objects of surgical treatment of this disease are, the author points out, to remove the fluid and membranous contents of the cyst through an opening in the abdominal wall, and to facilitate free discharge from the cavity, and obliteration both of this cavity and of the fistula by granulation and cicatrisation. The treatment of hydatids of the liver by simple puncture, by puncture and the retention of a large cannula, and by operations in successive stages first proposed in 1825 by Récamier, and subsequently modified by Volkmann under antiseptic conditions, has of late given way to more direct and radical measures. It has been proved by Sandemann, Sänger, and Landau that in suitable cases the surgeon may with good prospects of success open the abdominal cavity, puncture and empty the cyst, cut away the free portions of its wall, stitch the edges to the wound in the abdominal wall, and establish a fistula. The case recorded by the author is one in which an hydatid cyst on the anterior surface of the liver was thus successfully treated.

Of 39 cases of hydatid cysts of the liver treated by laparotomy 5 were fatal, but in some of these cases, the author states, death was due rather to pre-existent complications than to surgical intervention. In 12 of the successful cases in which reference is made to the closing of the fistula, the average period during which this communication had been maintained was 67 days. Of 12 cases in which Volkmann's operation by successive stages was performed, one proved fatal. The duration of this plan of treatment is usually prolonged, and may be five or six months or more.

In his remarks on the indications for surgical interference, Professor Poulet states that, if it be indicated by constitutional symptoms and by the results of simple puncture that the hydatid cyst has undergone suppuration, evacuation, either directly or in successive stages, is a necessity. The treatment in such cases should be that of hepatic abscess. With regard to the influence of the volume of the cyst on the choice of treatment, it is pointed out that most surgeons agree that laparotomy, followed by immediate or deferred incision, is indicated in cases where the tumour is so large as to occupy a considerable part of the abdominal cavity, and to displace the diaphragm and neighbouring viscera. It has not yet been proved that a large external wound is better than a small one under such circumstances, except, of course, in instances of pedunculated or enucleable cysts, which could at the same time be partially removed. Operative treatment is just as much indicated for a cyst of medium or small size as for a large growth.

The treatment of hydatids of the liver will also be influenced by the situation of the cyst with regard to this organ. In cases of cysts on the inferior surface of the liver, more or less pedunculated, and reaching to the lower part of the abdominal cavity, the advantages of laparotomy with immediate incision, and partial or total removal of the growth, cannot (as has been proved by Ternier and Reclus) be any longer disputed. In cases of hydatid cyst of the anterior surface or left lobe of the liver, forming a distinct tumour between the costal cartilages and the umbilicus, the surgeon has a free choice from different methods of evacuation; but it has been proved by collected cases that in dealing with such conditions, incision in one or in successive stages is not inferior in its results to other methods. In considering the question whether the surgeon is justified in performing laparotomy and hepatotomy in cases of deeply-seated intra-hepatic cysts, which, whilst causing much enlargement of the liver, do not project from any part of its surface, the author points out that intervention in such cases would not be justifiable until after the diagnosis had been established by exploratory puncture. Wounds of the liver, if made under aseptic conditions, are not so serious as it is generally supposed, and the hepatic structure around the cyst, being sclerosed, is less liable to bleed freely than the structure of a healthy liver. Incision, however, in such cases requires exceptional surgical skill and attention to many precautions. The incised liver has in some few cases been fixed by sutures to the wound in the abdominal wall, but, according to Professor Poulet, it remains open to doubt whether such course be justifiable. Cysts in the postero-superior parts of the liver have been submitted to surgical treatment. In a case of this kind, Israel, of Berlin, first resected a part of the sixth rib, opened the pleural cavity, and plugged the wound with antiseptic gauze. After an interval of a week he incised the diaphragm, and penetrated into the abdominal cavity, the wound being treated in a similar manner. Nine days later he incised and emptied the cyst.

In conclusion, the author discusses the treatment of cases of hydatid cysts of the liver which have perforated the diaphragm and ruptured into the pleural cavity or bronchi. In such cases the operative treatment of empyema might be practised with fair prospects of success. If the cyst should still continue to grow, and a tumour present itself between the margin of the thorax and the umbilicus, laparotomy may be performed with the view of removing the contents of the hepatic cyst and establishing an inferior and dependent opening.

W. JOHNSON SMITH.

ARTICLE 6112.

LEONTIEFF ON THE INFLUENCE OF ALCOHOL AND MORPHIA ON THE DURATION OF ACUTE ASPHYXIA.

ACCORDING to Dr. K. M. Leontieff, of Kazan (*Dnevnik Kazanskaho Obshtchestva Vratcheĭ*, Nos. 13–18, 1885), literature does not contain any observations or experimental works touching the question whether the duration of fatal acute asphyxia may be prolonged or shortened by previously introducing alcohol (or any other substance) into the system. Meanwhile, experimental researches on the subject possess both practical (especially forensic) and theoretical interest; the latter being heightened especially by the fact that the results of observations, made by Schmiedeberg and Bonwetsch on blood outside of the system, seem to point out that alcohol increases the stability of oxyhæmoglobin; that is, somehow brings about a closer and more durable combination of oxygen with hæmoglobin.

To aid in the elucidation of the matter, Dr. Leontieff undertook numerous experiments on dogs and puppies, on cats and kittens, the first group of which had for its aim to verify Bonwetsch's results, and consisted, *a*, in the extraction of a small amount of blood, its defibrinisation, dilution with a certain quantity of distilled water, and de-oxydation through adding a definite amount of a de-oxydising substance; *b*, in taking a precise measurement of the time required for reduction (that is, for the appearance of the spectroscopic band of reduced hæmoglobin); *c*, in injecting into the animal a certain quantity of 30 per cent. alcohol; *d*, in repeating all the procedures under *a* and *b*. The conclusion drawn from this series of experiments confirms Bonwetsch's statement and runs thus: Entering into the system, alcohol remains intact in the blood, and *eo ipso* causes oxygen to more intimately combine with hæmoglobin, the quantity of alcohol present having no essential influence on the result.

A second group of experiments (conducted only on kittens and puppies) had as its object the study of the influence of alcohol on the duration of asphyxia. Each experiment was carried out simultaneously on two animals, one of which received alcohol, while the other did not. Large doses of alcohol were introduced either into the stomach (through a gastric tube) or into the lungs (in the form of inhalation); small doses, either intravenously, or into the trachea. For inhalation, 90 per cent. alcohol was used; in the remaining cases, 30 per cent. Asphyxia was induced either by drowning in a glass vessel closed with a glass cover (with no air intervening between the latter and water); or by suffocating by means of a special apparatus adapted simultaneously to stop any communication between the animal's lungs and the air, and to note the respiratory movements. Circulation was examined by means of a kymograph. The conclusions at which the author arrived are as follows. Alcohol increases the duration of the asphyctic process; that is, in an alcoholised animal the respiratory movements and cardiac action last longer, and death ensues later, than in the natural condition. When large doses are used, convulsive movements, as well as contraction of the accessory respiratory muscles, are either very weak or absent altogether, while expiratory movements are retarded; conditions which point to a depression of the nerve-centres. Under small doses, except a prolongation of life, no other deviations from the usual course of asphyxia are observed. In animals dying from drowning after being previously intoxicated by large doses of alcohol, the spleen always contains a comparatively large amount of blood [a phenomenon to which Dr. Uskoff drew attention in 1880; *see* his communication on the 'Spleen in Cases of Drowning in the Inebriate

State,' in the *Proceedings of the Cronstadt Marine Medical Society*, No. 18, 1880–81, p. 4]. The congestion is dependent on the action of alcohol, the condition being absent both in non-alcoholised drowned animals, and in those drowning after receiving small doses of spirit. A prolongation of the asphyctic state under small doses of alcohol is dependent only upon the power of the latter to more intimately combine oxygen with hæmoglobin. But when large doses of alcohol are used, the prolongation is caused, also, by an inhibitory action of alcohol on the nerve-centres. That a simple depression of the latter may cause a prolongation of the asphyctic state, has been proved by a special series of experiments made by the author with morphine. V. Idelson, M.D.

Article 6113.

VORONTZOFF, VINOGRADOFF, AND KOLESNIKOFF ON THE ACTION OF ANTISEPTICS ON THE BACILLUS OF ANTHRAX.

In a preliminary note in the *Russkaia Meditsina*, No. 3, 1886, Professor V. E. Vorontzoff and Drs. K. N. Vinogradoff and N. F. Kolesnikoff state the results of their experiments, which were carried out in Professor N. P. Ivanovsky's bacteriological laboratory, in St. Petersburg. The experiments were undertaken to study the action of various antiseptic agents on the bacillus of anthrax and its spores, and were conducted after two methods.

A. The authors took a meat-infusion teeming with the bacilli and spores, and placed in it sterilised glass-wool threads for intervals varying from several minutes to twenty-four hours; then the threads were transferred in the disinfectant agent experimented upon, and that either directly or after previously drying them at a temperature of 70° to 100° C. (158° to 212° Fahr.) After a certain interval, the threads were either introduced under the skin of rabbits, or were used for obtaining cultures, and then the latter were inoculated on animals.

B. Another method consisted in mixing a disinfectant agent in a meat-infusion with the bacilli and spores, and in transferring (after a certain interval) a drop of the mixture in pure meat-infusion, kept in a thermostat at a temperature of 35° to 37° C. In such cases, where the bacteria remained undestroyed, there appeared on the next day colonies of new microbes, which subsequently assumed the well-known characteristic shape of cotton-wool flocks.

The results may be summarised thus.

A. Bacteria and spores (on moist and dry threads alike) lost their vegetative and infectious properties: 1, after one minute's action of a solution of sublimate corrosive not weaker than 0·2 per cent. (threads); 2, after one minute's action of a 5 per cent. solution of chloride of calcium (threads); 3, after two minutes' action of chemically pure nitric and hydrochloric acids (threads); 4, after five minutes' action of a 12·5 per cent. sulphuric acid (bouillon); 5, after fifteen minutes' action of a 0·1 per cent. solution of sublimate corrosive (bouillon); 6, after thirty minutes' action of a 25 per cent. solution of hydrochloric acid (bouillon); 7, after thirty minutes' action of a 2·5 per cent. solution of chloride of calcium (bouillon).

B. Bacteria and spores retained their vegetative and infectious characters: *a*, when on glass threads; 1, after one minute's action of a 50 per cent. solution of chloride of zinc, a 2·5 per cent. solution of chloride of calcium, pure styron, chemically pure hydrochloric acid, or crystallised carbolic acid; 2, after one to three minutes' action of glacial acetic acid, chemically pure and concentrated, and 5 to 50 per cent. sulphuric acid; *b*, in meat-infusion; 1, after five minutes' to seventy-two hours' action of a 25 per cent. solution of carbolic acid, 5 per cent. sulphuric acid, 12·5 per cent. solution of chloride of zinc; 2, after five to thirty minutes' action of a 25 per cent. hydrochloric acid, and a 2·5 per cent. solution of chlorinated lime. V. Idelson, M.D.

Article 6114.

RAPTCHEVSKY ON THE ETIOLOGY AND PATHOLOGY OF ASIATIC CHOLERA.[*]

At the first meeting of Russian medical men in St. Petersburg, in December 1885, Professor J. F. Raptchevsky made an interesting communication (*Vratch*, Nos. 4 and 5, 1886) on the etiology and pathology of Asiatic cholera, basing his statements mainly on his observations made during the cholera epidemic in Spain in 1885. [The author was sent to Spain by the Russian Government, with the special mission of studying the disease on the spot.] His communication consists of three parts, the first of which gives historical data concerning the origin of the epidemic in question. A second part embodies the results of the author's anatomical and bacterioscopic investigations.

A. Anatomical Examination.—[Fifteen cases in the Hospital del Sur in Madrid; the necropsy was made sometimes half an hour, mostly three or four hours, in two cases fourteen hours, after the patient's death.] *a. Small Bowel.*—There were found a well-known extreme congestion of the serous coat, giving rise to a rosy or even dark red discoloration (especially in the ileum); viscid, clammy, greyish-white mucus (desquamated epithelium) on the mucous membrane along the whole tract up to the ileo-cæcal valve; a hortensia-red discoloration of the mucous membrane, deepening towards Bauhin's valve, and with the duration of the case (so that, in cases of fifteen to twenty-four hours' duration, the mucous membrane of the lower part of the jejunum and the whole ileum was dark red and covered with small ecchymoses); enlargement of the solitary follicles with a hyperæmic halo around them; enlargement of Peyer's patches as well as (in a moiety of the cases) of the mesenteric glands; an invariably present infiltration of the mucous membrane with lymphoid elements (to which infiltration attention was drawn many years ago also by Professor M. M. Rudneff, of St. Petersburg) increasing with the duration of the case; opaque swelling, fatty degeneration and disintegration of the epithelium of Lieberkuehn's glands; 'coagulation-necrosis' of the interstitial tissue of the mucous membrane (especially in protracted cases). *b. Kidneys.*—Alterations were observed chiefly in the typhoid stage in the more protracted cases, and consisted in venous stasis; in more or less pronounced degeneration of the epithelium in the convoluted tubes, in the ascending parts of Henle's loops, in the straight and collecting tubuli;

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[*] Raptchevsky, J. F., Professor.—On the Etiology of Asiatic Cholera, according to Researches during last Epidemic in Spain. (*Vratch*, 1886, No. 4, pp. 69-74; and No. 5, pp. 94-101.)

as well as in a moderate leucocytic infiltration of the interstitial tissue. *c. The Spleen* was always strikingly diminished in bulk. *d. The Lungs* were somewhat dry. *e. The Liver* and other organs did not present any characteristic changes.

B. Bacterioscopic Examination. a. Fæces (during life).—Of twelve algid cases, in four, the fæces represented an almost pure 'culture' of Koch's bacillus; in five they contained a large number of the microbes; and in three, a very small. The rod was found in the intestinal contents in eight of nine bodies from the algid period, and was absent in the typhoid stage (two cases). In a majority of the cases, besides the cholera-bacillus, there were present, also, Bienstock's streptococci (one of the evolutionary stages of the bacterium of putrefaction of proteids). *b. Contents of the Stomach.*—In six cases examined, the rods (in scanty numbers) were found only once. *c. Blood, Lungs, Spleen, Liver, Kidneys, Mesenteric Glands.*—No micro-organisms were detected under the microscope. Cultivation-experiments gave also negative results, except two cases where cultivation of the hepatic tissue gave pure colonies of Koch's rods. The author believes that the microbe found its way into the liver through the bile-ducts. *d. Intestinal Wall.* In three of seven cases examined, the author found an 'enormous (*gromadnoië*)' number of the microbes, which were situated in the wall of the ileum. The commas were seen scattered in the lumen of Lieberkuehn's glands, between their epithelium and proper membrane, in the tissue of the villi, in the adenoid tissue of the mucous membrane, in the submucous coat, but not deeper than the *muscularis mucosæ*; they were never found in the blood-vessels.

Summarising his results, the author says that 'Koch's bacillus is decidedly the single microbe which occurs with a striking constancy in the intestines and dejecta of cholera patients, and which is fairly often there in the shape of almost pure cultures.' He admits that the micro-organism may find its way also into the liver and pancreas, as organs directly communicating with the intestines; but he feels at a loss to understand how Doyen could find the microbe in the kidneys, and positively declines to accept the results of Emmerich (who found some straight rods in the blood in cholera cases).

Passing to the essence of the question, the author is inclined to admit cholerigenic properties of Koch's bacillus. True, inoculation-experiments on animals as yet lack a fully convincing power; but, at all events, their results do not speak against the pathogenic action of Koch's microbe in cholera; on the contrary, if anything, they tend to confirm the hypothesis. Having repeated Nicati and Rietsch's experiments on guinea-pigs (introduction of pure culture into the duodenum), Dr. Raptchevsky invariably found extensive desquamation of the epithelium in the small bowel; the presence of characteristic slimy, viscid, greyish-white masses on the intestinal wall; intense congestion of, and numerous punctiform ecchymoses in, the mucous membrane; and fluid colourless contents with pure culture of the microbe.

The concluding part of the paper discusses the ways of spreading of cholera, and begins with an exposition and criticism of the views of Dr. C. M. Cunningham (Sanitary Commissioner with the Government of India). Differing from the latter, Dr. Raptchevsky states his belief that cholera may spread, and does spread, through human communications, through importation of Koch's bacillus with soiled clothing and the like. The main factor in spreading of cholera is drinking-water; but it is possible, also, that infection sometimes takes place through the air; choleraic dejecta, when drying, may give to the air partially dried and still viable microbes, which can be then inhaled (that is, introduced with the air into the stomach), or eaten with food-articles covered with infectious dust. That the vitality of the cholera-bacillus is very considerable, may be taken as proved by experiments of Koch, Nicati and Rietsch, Babes, Lenevitch, and the author. In agar-agar jelly the microbe remains viable for several months (Koch); in common water, about a month (Nicati and Rietsch). It is destroyed by the temperatures above 60° C., but it bears well low temperatures for a long period. Thus, Dr. Raptchevsky could still obtain cultures from the rods, which were exposed for about a month to a temperature as low as 12° R. = 51°·2 Fahr. (a temperature of 17° R. killed the microbes).

[According to Dr. L. Lenevitch, who experimented in Professor V. A. Manasseïn's bacterioscopic laboratory (*Vratch*, No. 8, 1886, pp. 145–46), all bacilli are destroyed within six or ten hours, when they are dried under an ordinary temperature on a cover-glass painted with a very thin layer of meat-peptone broth-culture. But it is quite otherwise when a thin silk thread soaked in the broth-culture is taken, and then dried. Some of the rods remain still viable on the fourth or fifth day, or even on the seventh or eighth, if the silk thread be soaked in a more or less thick medium, such as a liquefied jelly.—*Rep.*]

V. Idelson, M.D.

Article 6115.

VILTCHÜR, STROGANOFF, AND MÏRLËS ON THE TYPHOID BACILLUS.

In a preliminary note in the *Vratch*, No. 25, 1886, p. 456, Dr. A. J. Viltchür,* of Professor M. I. Afanasieff's bacterioscopic laboratory, in St. Petersburg, states that he studied the morphology and biology of the typhoid pathogenic microbe which he obtained from the spleen, liver, mesenteric glands, and excrements, of typhoid patients, and cultivated in 5 per cent. meat-peptone gelatine, 1 per cent. meat-peptone agar-agar, and on boiled potato. In all, more than two hundred cultures were obtained from the organs of four typhoid bodies, and from the stools taken from twenty typhoid patients (about the thirteenth day of the disease). The author dwells at length on the enormous difficulty of isolating the typhoid bacillus from a number of other various microbes occurring in the fæces of typhoid patients. As a characteristic feature of colonies of the typhoid rod growing on a boiled potato, he regards a complete invisibility of the colonies on the surface of the potato which had been kept forty-eight or more hours at a thermostate at 37° C. (98·6° F.), the closest examination failing to detect any difference in outward appearance between the infected and normal regions of the surface.

For the differential diagnosis of the colonies growing on plates with jelly or agar-agar, the following points are important. 1. Typhoid colonies are usually larger than the non-typhoid ones. 2. They retain their *yellow* cinnamon colour longer than the non-typhoid colonies which soon turn quite cinnamon-coloured. 3. They become cinnamon when the non-typhoid colonies assume a very dark tint or blacken altogether.

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* Viltchür, A. J.—On Cultivation of the Typhoid Bacillus from Typhoid Organs and Stools. (*Vratch*, No. 25, 1886, pp. 456-8.)

The deductions drawn by Dr. Viltchür from his researches are these. 1. The typhoid rods grow more luxuriantly on meat-peptone agar-agar than on meat-peptone jelly. 2. Their size depends upon the medium in which they proliferate. They attain their largest size when they grow on the potato under the temperature of 27° C., and their least size when they grow on meat-peptone agar-agar under the ordinary temperature of a room. 3. Their length varies between one third of the diameter of a red blood-corpuscle and the whole diameter, or even more. The longest forms are met in gelatine cultures, the shortest in agar-agar. 4. In gelatine cultures of old standing there are found involution-forms, some rods being unevenly swollen and taking in stains very badly. 5. Unstainable spores appear after an inoculated potato has been kept in a thermostat for forty-eight hours at 37° C. or for fifty-eight or sixty hours at 27° C. When the potato has been left in a thermostat at 37° C. for seventy-two to eighty hours, the spores acquire a disposition for taking in stains better than the rods themselves. 6. Typhoid rods are excellently stained with solutions of 'rubine' in aniline water. 7. Preparations obtained from an inoculated potato, which has been kept from forty-two to sixty hours at the temperature of 27° C., often contain coloured rods with completely unstained spots (vacuoles). 8. The stools from typhoid patients almost invariably (in sixteen out of twenty cases) contain a larger or lesser number of typhoid rods capable of proliferation (in one of the cases the typhoid micro-organisms were found almost in the shape of a pure culture). 9. Not all microbes occurring in typhoid stools grow equally well on meat-peptone jelly and meat-peptone agar-agar. 10. No liquefaction of meat-peptone gelatine on plates is observed when the jelly is inoculated with typhoid fæces in a possibly pure state. [The author made his patients defecate in his presence, the cleanest possible utensils being always used. Immediately after defecation, a small portion of fæces was taken by a well tempered platinum-needle, to be at once introduced into a test-tube with meat-peptone jelly. Having liquefied the latter mixture, he inoculated with its droplets other test-tubes containing either the same cultivation medium or meat-peptone agar-agar in a similarly liquefied state, to spread the fluids over sterilised glass plates.] 11. Notwithstanding Bienstock's assertions, micrococci may be met with not unfrequently in cultures from normal fæces.

At a meeting of the Odessa Medical Society, Dr. N. A. Stroganoff[*] reported (*Proceedings of the Odessa Medical Society*, No. 16, 1885, p. 26) four cases of enteric fever, and showed numerous preparations of the typhoid rod, which had been obtained from the cases by means of the cultivation of the substance, taken from Peyer's patches and inoculated on gelatine and potato after Gaffky's method. The author draws attention to his results, which differ from those of Gaffky. Having obtained a pure culture of typical Eberth's rods (on potato at 20° C.), the author saw that, forty-eight hours later, the culture was transformed into a colony of roundish (Letzerich's) and ovoid (Coze and Filtz's) bodies, while Eberth's rods disappeared altogether. Keeping in view Letzerich's statement that Eberth's rods, when kept at 37° C., become elongated, and approach Klebs's 'typhoid threads,' Dr. Stroganoff placed his just mentioned cultures in a thermostat at 37° C. to 38° C. Twenty-four hours later there appeared numerous rods amongst ovoid bodies; forty hours later the rods were predominating, and in the course of the next two days nearly all formed spores. In other words, Letzerich's spherical bodies, and Coze and Filtz's ovoid corpuscles, were only intermediate forms of the pathogenic microbe of enteric fever.

Dr. Mīrlēs,[*] of Professor N. P. Ivanovsky's laboratory, has examined (*St. Petersburg Inaugural Dissertation*, 1886, pp. 126) the organs from fourteen cases of enteric fever, the examination being undertaken from fourteen to forty-eight hours after death, which took place in two of the cases during the first, and in seven during the second, week of the disease. The preparations were treated after Gaffky's method (stained with methylin-blue). The main outcome of the author's assiduous researches may be summarised thus. 1. Eberth's short rod (as photographed by Koch) is invariably present in all cases of typhoid fever, and is peculiar to the disease. 2. It is *the* microbe which primarily penetrates into the tissues of the bowel in typhoid fever. 3. It penetrates through the villi, and may alone pass beyond Brücke's muscularis mucosæ up to the serous coat of the intestinal wall, and form small oval colonies (while another sort of rod-shaped microbes which are present in Lieberkühn's glands are larger, and take stains better than Eberth's rods, do not transgress the said line). 4. Eberth's bacilli are met with in the villi, lymphatics, muscular coats, capillaries, and veins, Lieberkühn's glands, and follicles of the bowel. 5. They are usually (in 12 of 14 cases) present in the mesenteric glands, either as scattered isolated rods (5 cases) or in colonies or masses (7 cases) of angular or 'map-like' form and various size (but mainly of a large one. In one case micrococci, and in two cases bacilli of another kind, were simultaneously present). 6. Eberth's rods were invariably found also in the spleen and, namely in eleven cases, they were present in the shape of large map-like colonies or masses, while in the remaining three cases they were lying scattered or isolated amidst the tissues of the organ. 7. Similar angular or map-like colonies or masses may be met also in the cerebral hemispheres. [The author saw only one case of the kind. The patient suffered from severe delirium, excitement, and other ever-increasing nervous symptoms, and died on the twelfth day of the disease. The brain and meninges were intensely hyperæmic. Microbic colonies, varying in size from 6 by 12 to 30 by 42 and more micro-millimètres, were found in the convolutions.] 8. Small colonies consisting only of Eberth's rods were found also in the walls of the cardiac capillaries in one case.

In several other cases there were present colonies of micrococci, and in one the whole cardiac muscle was infiltrated with thick septic bacilli.]

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[*] Stroganoff, N. A.—Four Cases of Typhoid Fever; Demonstration of Cultures of the Bacillus Typhosus with Spores obtained from the Cases. (*Proceedings of the Odessa Medical Society*, No. 16, 1885, pp. 26-32.)

[*] Mīrlēs.—Micro-organisms of Typhoid Fever-Materials for the Study of their Relations to Tissues of the Intestines and to Viscera: a Microscopical Investigation. (*St. Petersburg Inaugural Dissertation*, 1886, pp. 126.)

9. In the liver, microbes (either scattered or colonial) were present in eight of fourteen cases, but they were of a mixed composition (consisting of rods of various sizes, shapes, and behaviour to stains). 10. In a half of the cases the lungs contained either spheric or rod-shaped micro-organisms, which, at all events, were quite different from Eberth's microbe. 11. The kidneys contained various micro-organisms in five of fourteen cases, but not once Eberth's rods. 12. Colonies of Eberth's rods, as observed in the internal organs in enteric fever, do not stand in any connection with organisms penetrating into the system from the bowel after death. 13. The time of necropsy (early or late) has no influence whatever either on the presence or absence of Eberth's rods, or on the numerical strength or size of colonies of the typhoid microbe. 14. The presence and number of the colonies do not stand in any direct connection with the presence or absence of any defects in the intestine of typhoid patients. 15. The observation of N. Sokoloff and Eberth, that the colonies in the spleen are the more numerous the more recent the morbid process is, does find support in the author's researches. 16. A late necropsy favours the penetration of various non-typhoid microbes into the tissues and organs of the body. 17. The author's control-examination of the organs from non-typhoid cases (septicæmia, tuberculosis, purulent peritonitis, and dysenteria) show that rod-shaped microbes occurring in such bodies are of another variety than Eberth's rods. 18. The cultivation experiments (on meat-peptone jelly) confirm Gaffky's statements concerning the growth and movement of the typhoid parasite. 19. When cultivated on meat-peptone gelatine, the bacterium termo always liquefies the medium after a certain stretch of time; meanwhile, Eberth's microbe leaves the jelly unaltered even after a lapse of several months (without losing its ability for multiplication, as an inoculation to a fresh jelly easily shows). 20. Klebs' supposition concerning a certain connection between symptoms observed during life, and presence of the typhoid microbes in corresponding organs, is supported by the author's observations. 21. There are reasons to believe that an early occurrence of cardiac weakness in uncomplicated typhoid cases stands in connection with small colonies of Eberth's rods in the walls of the cardiac capillaries. V. IDELSON, M.D.

ARTICLE 6116.

SCHEDE ON THE HEALING OF WOUNDS.

SCHEDE (*Deutsche Med. Wochensch.*, No. 23, 1886) makes use of what he calls the high organising qualities of the blood-coagulum for supplying a wound with plastic matter, thus rendering drainage as well as compression unnecessary. He was led to a closer consideration of this whilst doing Phelps's open section of the contracted soft parts, in a case of club-foot.

The operation having been performed with Esmarch's method of excluding of the blood, and the foot having been at once placed in normal position, the wound is bridged with a large piece of protective silk, covered with a strongly antiseptic bandage. After the position of the foot has been secured with a couple of plaster-of-Paris bandages, the wound may be left to itself for three or four weeks, after which time perfectly solid cicatrisation will be found to have taken place; or the cicatrisation will be complete at each end, and only in the middle will be found a small leather-coloured, tough, and half dry coagulum. The healing of the leg-wound has been effected without any secretion, and the muscles and tendons are perfectly joined and in good working order.

This method Schede adopted in a large number of cases, particularly those in which defects of the bone had to be filled out. Out of 240 cases, 222 were perfectly satisfactory; the coagulum being transformed into a solid cicatrix without any suppuration. In the other cases, there was either slight apyretic suppuration, or fungous degeneration of the incomplete cicatrix.

He always excluded the blood during the operation, used perfect antiseptic measures, and removed all diseased parts. The sublimate solution he used was of the strength of 1 in 1,000. In the greater number of cases the skin was stitched over the wound, only leaving an opening one or two centimètres in length to allow the discharge of superfluous blood. If necessary, Neuber's button-hole may be added. The union of the skin takes place irrespectively of the gaping of the wound underneath, as after operation for necrosis, simply in the form of a bridge over the cavity in the bone. In other cases in which circumstances cause or demand it, as in Phelps's operation for club-foot, the wound remains quite open. Then, without using any drainage, a large piece of protective silk, without any holes in it, is laid over the wound, extending several centimètres beyond its edges. This protective silk must lie closely and smoothly on the skin, serving the double purpose of securing the complete filling of the wound with blood, and of preventing drying and evaporation of the wound, as well as keeping the bandage from absorbing any but superfluous blood. Then follows the thick antiseptic bandage, consisting, firstly, of several even folds of sublimate gauze and wadding; and, secondly, of cushions of sublimate moss. The limb must be kept as motionless as possible. It will nearly always be found that the blood in all parts of the wound will coagulate, and will be gradually replaced without further secretion by a permanent tissue, beginning at the edges of the wound. The process is so rapid that small bone-cavities are completely healed without a fistula in less than a fortnight, and very large ones in about six weeks. To keep the wound full of blood, it is necessary to have the overflow openings not (as usually) at the lowest, but (if possible) at the highest point. If this be not possible, double care must be taken in adjusting the protective silk.

With a view of avoiding the presence of a foreign body, Schede has nearly always, in cases of resection, dispensed with suture of bone, some few exceptions being made with a catgut suture. He has used instead smooth and slightly grooved splints of gutta-percha, introduced into the interior of the bandage. They can be easily rendered antiseptic, and can be bent into any shape by being dipped into boiling water.

If important arteries should be injured in the operation, they must be carefully tied, the filling of the wound with blood being left exclusively to parenchymatous hæmorrhage.

He gives a case of the treatment of a wound made in resection of the knee. After the operation, the visible ends of the arteries having been tied, the Esmarch's bandage is loosened to detect spouting vessels. After this the India-rubber ligature is replaced (simply a central circular constriction). Then follows, as the case may be, either suture of the patella, or of the ligamentum patellæ, or union of the quadriceps tendon with the latter by catgut; after this, suture of the periosteal tissues, as well as a few sutures of bone, stitching of the skin up to the corner of the wound, the application of protective silk, sublimate gauze in even folds, and lateral gutta-percha splints, fastened with a bandage of sublimate gauze. Over this are applied cushions of sublimate moss; a long wooden outer splint, with a lateral footboard, reaches from the sole to the waist, and is secured with plaster-of-Paris bandages. Such an application may be safely left for four weeks. Even if the dressing be saturated with blood or bloody secretions in the first few days, it need not be changed. The stain on the bandage must be watched to see whether it grow larger and remain damp, or remain stationary and become dry. In the latter case, it may safely be left on.

Sometimes there may be aseptic fever during the first two or three days. In one case, in which the assistant had closed the wound too far, there was retention of the secretions of the wound, but without any bad results.

The chief factor in the success of the method is the perfect asepsis of the wound. If there be doubt on this head, it is better first to fill it with iodoform gauze or sublimate gauze, and to wait for the effect. If there be healthy granulation, the healing process is considerably accelerated by partial abrasions of the granulation, the filling of the wound with blood being thus forced.

The chief dangers to be contended with are (1) insufficiency of blood in the wound; (2) fungous degeneration of the cicatrix, attributable to tubercular centres that have remained; (3) foreign bodies left in the wound—*e.g.* sequestra, &c. Wounds with rigid walls and wounds of the bones and joints are the best to be treated by this method. As to the application of the method to wounds in the soft parts, there has been as yet but little experience.

Schede claims as the chief advantages of this method, the comparative comfort for the patient; the fact that the bandage has to be seldom changed; the safe, speedy, and perfect healing effected; and the good conservation of the functions. He considers the blood to offer the best plastic matter.

JOHN ELLIOTT.

ARTICLE 6117.

WILLIAMS AND GODLEE ON PARACENTESIS IN BRONCHIECTASIS.

IN the *Lancet*, March 1886, p. 591, is published a paper by Dr. Theodore Williams and Mr. Godlee on the mode of operation by paracentesis in two cases of bronchiectasis.

One patient was a gentleman, aged 67, who had suffered for two years from chronic bronchitis and emphysema, and six months later had dry pleurisy of the left lung. After the pleurisy the expectoration became profuse and somewhat fetid, with a very harassing cough. A great variety of antiseptic treatment was tried, as well as change of air, but no relief was obtained, and the patient was losing flesh. He was seen by Dr. Williams, who diagnosed a bronchiectasis in the lower lobe of the left lung, the pleura of which was adherent. Tubular sounds were heard over two small areas, neither exceeding a half-crown in circumference, in the eighth interspace. Mr. Godlee was asked to make a puncture into the first area, and, under antiseptic precautions, the cavity was opened, and a drainage-tube inserted. Soon after the operation the cough became much less troublesome, and in a few days almost ceased, whilst the expectoration diminished from one pint a day to a few pellets, and became free from odour. At the end of six weeks the wound was healed, and nine months after the operation the patient seemed quite well.

The second case was that of a young girl, aged 21, who had several bronchiectases. A piece of the eighth rib was removed in order to insert a drainage-tube into one, and the patient improved considerably; but, owing to the existence of bronchiectases in other parts, the result was not so good as in the first case.

The arguments in favour of this operation are: 1, the tendency to death by septicæmia in some form, unless proper drainage be effected; 2, the invulnerability of the lung-tissue.

The difficulties of the operation are principally those of diagnosis of the exact positions of the bronchiectases; 1, from the presence of emphysema; 2, from the reverberatory character of their auscultatory sounds, which renders exact localisation very difficult.

Paracentesis of bronchiectases seems to be indicated under the following circumstances: 1, in cases where antiseptic treatment of all kinds has failed to correct the fetor of expectoration, and to allay the harassing nature of the cough, where death by septic pneumonia seems imminent; 2, where the evidence goes to prove that the bronchiectases are confined to one lung, are situated in the lower lobe, and have overlying them an adherent pleura.

RICHARD NEALE, M.D.

ARTICLE 6118.

MURRELL ON THE TREATMENT OF INFANTILE PARALYSIS.

IN the *Lancet*, Dec. 1885, p. 1177, Dr. Wm. Murrell publishes a lecture upon the Treatment of Infantile Paralyis. The author states that much may be done, especially in early cases, though sometimes it is necessary to continue treatment for many months. Many of these cases commence with some febrile disturbance. During this stage the patient must be kept perfectly quiet in bed, the room being kept dark. The bowels should be opened by a gentle aperient, and the diet should be very light. Small doses of aconite are good at this time; a teaspoonful of a mixture of five minims of the tincture in two ounces of water, should be given every hour for three or four doses, then every two, three, or four hours, until the temperature is normal. Should convulsions occur, they are best treated by large doses of the bromides.

When the acute stage is over, the child may get up, and should be fed on a liberal diet. Small blisters or iodine should be applied to the spine, and small doses of physostigma should be given. It is administered in the form of a pilule containing one-fiftieth of a grain. At first, one is given three times a day, and the number is gradually increased until one is taken every three hours. After about six weeks' use of the physostigma, it is well to combine with each dose about $\frac{1}{200}$ grain, or even less, of phosphorus. Directly the acute symptoms have subsided—that is to say, in three or four days from the onset of the attack—it is necessary to carry out systematically a course of massage. There are many varieties of massage, but the author confines himself to the following varieties. 1. *Effleurage*, in which the palm of the hand or its radial border is employed, and the movements are centripetal. 2. *Friction*, performed with the tips of the fingers moved in a circular direction, and this should be combined with centripetal stroking. 3. *Pétrissage*; this consists essentially in picking up a portion of muscle or other tissue with both hands, or the fingers of one hand, and subjecting it to firm pressure, rolling it at the same time between the fingers and the subjacent parts. 4. *Tapotement*; this is performed either with the palms of the hands, their ulnar borders, or the tips of the fingers.

The beneficial effects from this treatment are soon visible, notably in the increased warmth of the affected parts. This increase of temperature is accompanied by increased tissue-change, and the patient soon feels to be getting better. The process should be done at first five or six times a day, each sitting being from five to ten minutes, their duration being gradually increased as the patient is able to bear it. The massage should be used not only to the spine and back, but to the paralysed limbs. As the patient improves, the interrupted current alone is useful if applied to the muscles, and, in all cases, galvanism over the spinal cord does good. In many cases, it is good to give cod-liver oil and extract of malt. Chemical food, Easton's syrup, and a course of Fellowes' hypophosphites, are all useful adjuncts to this treatment. The patient should be warmly clad from head to foot, and hot salt-water baths do much good. The author has great faith in the mode of treatment which he advocates, and trusts that many will give it a trial to prove its value.

Richard Neale, M.D.

Article 6119.

MONEY ON CAPILLARY EMBOLISM OF BRAIN AND SPINAL CORD.

In the *Brit. Med. Jour.*, July 1886, p. 99, is published an abstract report by Dr. Angel Money on capillary embolism of brain and spinal cord, and its relations to the various forms of chorea. The author summarises under three headings the main facts that have resulted from his experiments upon monkeys.

1. The clinical results of thirteen experiments are given. In all, artificial emboli were injected into the common carotid artery in the direction of the blood-stream. The particular liquid consisted of a teaspoonful of starch (potato) to half an ounce of distilled water. Three times only one minim was injected. The animals remained perfectly well; no disorder of movement could be detected during a period of three months. In two cases, three minims of the solution were injected; no spontaneous movements were observed; decided hemiplegia of cerebral type was observed immediately after the animal recovered from the anæsthetic. This hemiplegia tended slowly to disappear. Thrice a dose of five to seven minims was injected. Hemiplegia resulted, and had not completely recovered at the end of three months. In one monkey, the right common carotid was simply ligatured without any effect. Four days later, an injection was made into the left common carotid; right hemiplegia followed. The next day a fit of clonic spasms was observed in the right forearm, and lasted fifteen seconds. It was never repeated, and was no doubt due to the poor supply of blood to the brain. In another case three minims of the solution were injected, causing a moderate hemiplegia, which disappeared at the end of seven weeks, when the opposite carotid was ligatured without causing any symptoms whatever. In one monkey, five minims of a weak solution of mustard were injected. The animal was somewhat collapsed for an hour after the operation, and had distinct hemiplegia, which disappeared at the end of four weeks. In the last monkey experimented upon, five minims of a suspension of pure carbonate of lime in water were injected. The immediate effect was collapse, with hemiplegia and rigidity of the left side; the other limbs also were somewhat rigid. The animal died in twelve hours.

2. The anatomical signs produced in the brain by injecting the fluid were noticed in those cases where three minims were injected; when only one minim was injected, nothing was detected. The signs produced by the medium dose were slight atrophy of the convolutions affected, and by the microscope slight areas of softening were detected. In a few places, the capillaries were seen to be blocked with starch granules. With the large doses there was noted extensive atrophy of some convolutions, but not of the motor ones. The convolutions that suffered chiefly were the supra-marginal and angular.

3. The author goes on to discuss the pathological effects of capillary embolism.

The results of these experiments tend to show that embolism does not produce chorea, but Dr. Money does not think that chorea is a purely 'functional' disease. He regards a large number of cases as due to a rheumatic localisation in the motor nervous centres, and expresses his present attitude with regard to the subject by the following propositions.

1. Human chorea is generally and mainly of cerebral origin, though a few cases may be of purely spinal source.
2. The commonest lesion causing chorea is a 'rheumatic' affection of the circumvascular connective tissues of the motor apparatus of the brain and cord.
3. Embolism may be a cause of chorea in rare instances.
4. Chorea may be set up by 'fright' when the lesion is probably a molecular disturbance of the cerebro-spinal motor apparatus.

Richard Neale, M.D.

Article 6120.

DRESCHFELD ON DIABETIC COMA.

In the *Brit. Med. Jour.*, August 1886, p. 358, is published The Bradshawe Lecture, delivered by Dr. Julius Dreschfeld, on the subject of Diabetic Coma. Many patients suffering from diabetes die from coma, but the coma is not always due to diabetes. It may result from cerebral hæmorrhage, albuminuria, acute pneumonia, or even after a slight operation, or a nervous shock. If these cases, however, are excepted, there yet remain a large number where, without apparent reason, suddenly symptoms appear, of which a gradual deepening coma, with more or less dyspnœa, forms the most prominent feature, and which leads to death often in a few hours, or a few days.

These are true cases of diabetic coma, and they are classified by the author, according to the symptoms, into three groups : 1, cases chiefly characterised by drowsiness, soon passing into coma ; 2, cases resembling alcoholic intoxication, a marked symptom being a staggering gait, incoherent and thick speech, an excited state of the nervous system, followed by drowsiness and coma ; 3, cases in which dyspnœa is a most marked symptom, followed by coma, and where both the breath of the patient and the urine show a characteristic odour of acetone, and the urine contains a peculiar body, giving a deep claret colour, with perchloride of iron.

The first group of cases are met with usually in patients who are stout, and suffer from a slow and protracted form of the disease. After some extra physical exertion, or some sudden shock, or even excess in eating or drinking, symptoms of drowsiness supervene, leading on to collapse in ten to twenty hours. On *post mortem* examination, it is generally found that the heart has undergone fatty degeneration in connection with other organs, and was not able to bear the extra strain put upon it.

The second form is of rarer occurrence, and is most likely pathologically identical with the third. The symptoms resemble acute alcoholic intoxication, and a case is recorded by Keely where the urine contained large quantities of alcohol, though the patient was known not to have had access to any alcoholic liquor.

The third form is by far the most common, and for want of a better name the author calls it coma from acetonæmia. In these cases, the first symptoms consist of lassitude, or some slight dyspnœa or severe gastric pain with vomiting. From this initial stage the patient passes into a state of drowsiness, associated with marked dyspnœa, soon followed by coma and death. This form is generally met with in younger persons, chiefly between 20 and 40. It may come on very early in the course of the disease, and there is often a strong hereditary influence. The exciting causes are well known—viz., excessive physical exercise, sudden shock, sudden change of diet, surgical operations, and the onset of febrile affections. The anatomical lesions found after death in these cases are very certain and inconstant, so that it is not surprising so many views exist as to the nature of the process which underlies diabetic coma. The author, however, directs his attention chiefly to those abnormal bodies which are found circulating in the blood, or appear in the secretions. These bodies are, on the one hand, fat ; on the other, acetone, aceto-acetic ether, aceto-acetic acid, and β. oxy-butyric acid. The theory that all the symptoms of diabetic coma were due to the presence of fat emboli has been quite laid aside, as in the majority of cases no fat emboli are found. The author has carried out numerous experiments testing the effect of acetone, aceto-acetic acid, aceto-acetic ether, and oxy-butyric acid, severally, on persons in perfect health ; the result being that no toxic effects were produced by any of them. In diabetes, however, the blood and tissues are so altered, and the functions of the liver and kidney so impaired that the acetone and other bodies are not eliminated quickly enough, and therefore give rise to their toxic symptoms. The third form of diabetic coma is thus compared with uræmia, only the toxic agents are totally different. The lecture concludes with a few words as to treatment. In cases where acetone is detected in the breath, and the urine gives the reaction with perchloride of iron, the patient should be warned against taking the slightest active exercise and should avoid all worry. The bowels should be well regulated, but only gentle laxatives should be given. Various remedies have been tried, but nothing seems to do much good in bad cases. The saying of Prout, who compares a person with diabetes to one who is walking on the brink of a precipice, is only too true.

RICHARD NEALE, M.D.

ARTICLE 6121.

KÜMMEL ON THE QUESTION, 'HOW IS A DOCTOR TO DISINFECT HIS HANDS?'

AT a meeting of the Hamburg Medical Association (reported in the *Deutsche Med. Wochensch.*, No. 32, 1886) Dr. Kümmel treated this subject in the following manner. Easy as it is to disinfect instruments, it is extremely difficult to render perfectly free of germs the hands which after all have to come into most frequent and intimate contact with wound surfaces. Even sponges, which are often considered to be the chief conveyers of infectious germs, can in a few minutes be brought into such a condition that the most severe tests fail to detect traces of fungous or bacterial colonies. But the hands with their innumerable larger and smaller creases, the small chaps and fissures unavoidably contracted in frequent operations, the ungual folds and the ends of even carefully-kept finger-nails, harbour infectious germs which it is very difficult to remove. It is possible, however, after treating diphtheritic and puerperal cases, after examination of the rectum, after dissection, &c., so to cleanse the hands in a short time that large operations and accouchements may be undertaken without danger ; but great care is required, and only a very few antiseptic solutions are available.

Dr. Kümmel has tested disinfectants by dipping his hands still moist with the disinfectant into nutritive gelatine. Though by no means all germs are pathogenic, yet that antiseptic must be pronounced the best which destroys all the germs. He has thus tested his hands in what may be called their normal condition, as well as after infection by dissection, operations, &c., with the following results.

To cleanse hands in their normal condition it is sufficient to thoroughly brush them with hot water and soap for three minutes, and then for one minute with a 6 *per mille* thymol solution, or 1 *per mille* sublimate solution, or 3 per cent. carbolic solution. Absolutely safe, however, is a 5 per cent. carbolic solution or chlorine water mixed with an equal quantity of distilled water. Before changing a bandage it will be necessary to brush the hands with soap and water, and then with an antiseptic solution preferably after the outer bandage has been removed. To thoroughly disinfect infected hands there must be a good brushing with soap and hot water for five minutes, followed by a brushing with chloric water, or a 5 per cent. carbolic solution for two minutes.

It is, above all, important to bring the hands into such a condition that a properly applied disinfectant can have its full effect, and this is gained by a thorough washing with a disinfected brush, and (preferably) potash soap in water as hot as the hands can bear it. Of course the whole of the exposed part of the arm must be included in the washing, &c. If it is not possible to keep away from dead bodies or infectious patients before a large operation, the whole body must be soaped and washed, and the clothes must be changed.

During a subsequent discussion of the subject, Fränkel and others questioned whether Dr. Kümmel's proposals were either necessary or practicable.

JOHN ELLIOTT.

ARTICLE 6122.

ENGELMANN ON DECOMPOSITION OF SOLUTIONS OF ERGOTINE.

THE subcutaneous injection of ergotine often causes serious irritation, especially if the mixture be not freshly made. This must be due to decomposition, which is doubtless caused by micro-organisms. Dr. Engelmann, of Kreuznach, has endeavoured to ascertain the conditions under which this decomposition takes place with a view to its prevention. To prove that it is due to the action of microbes, he first (*Deutsche Med. Wochensch.*, No. 39, 1886) demonstrated the presence of the latter by cultivation on gelatine plates. His method of putting a drop on the plate with platinum wire that had been just made red hot, he admits was not absolutely safe, yet he thinks sufficiently so for his purpose. First, both the ergotine and the water were subjected to this process. The results varied in a remarkable manner; there being, for instance, in the cultivation of Bombillon's *ergotinum bis dialysatum* that had been dispensed 124 days before, 6 fluid, 4 dry colonies of schizomycetes, and 5 mouldy colonies on the sixth day, while in some bottled for 307 days, there were on the seventh day 5 dry colonies of schizomycetes. Even in the pure ergotine microbes multiplied, but in varying quantities. Generally it appeared that after a considerable time of keeping the organisms perish, either because their nourishment is exhausted, or from other unknown causes. It must be added that there was no essential change in the ergotine, even when it contained large numbers of micro-organisms, there being only in very extreme cases a slight turbidity, while the smell and acid reaction remained unchanged.

Dr. Engelmann is of opinion that the preparation does not itself contain any organisms, and is but a poor medium for their propagation. And if many microbes do develop in it, this must be owing to some peculiarity in the dispensing. It may be that the glass, inadequately cleansed, contained the germs, or, more probably, that the water used for cleansing was impregnated with germs. Hence, the greatest care must be taken in dispensing pure ergotine to sterilise the bottle, perhaps preferably by heat.

Dr. Engelmann then turned his attention to the distilled water generally used for diluting ergotine. The common opinion that the distilled water used by druggists is the purest water that can be used he found to be untrue. He found, after many careful experiments (thinking the fault must be his own), an astonishing number of fungi in distilled water taken from druggists of the highest standing. He thinks this is attributable to the fact that the vessels used for storing the distilled water are seldom thoroughly cleansed, and thus become a breeding-place for microbes.

Solutions of morphia were also experimented on. Thus, solut. morph. hydrochl. (0·25) 10·0 dispensed on January 27, 1885, was put into cultivation on January 28, and in three days there were numerous colonies, the medium becoming fluid on the fifth day.

That small additions of disinfectants—*e.g.* carbolic acid, prevent the multiplication of microbes to only a small extent is proved by the following experiment.

Solut. morph. hydrochl. (0·25) 10·0, with an addition of 0·2 per cent. carbolic acid, dispensed one day and brought into cultivation the next, showed in one drop in four days sixteen colonies of schizomycetes, in thirteen days twenty colonies, and in twenty-four days from seventy to eighty colonies. Dr. Engelmann found repeatedly the staphylococcus pyogenes aureus, and albus, and asks whether the accompanying putrefactive bacteria may not prevent the development of the purulent fungi, for it is a fact that purulence seldom follows injections of morphia.

He tried the disinfecting properties of carbolic acid, salicylic acid, glycerine, and sublimate or ergotine solutions. Carbolic acid does not prevent, but materially limits, development; at the same time it renders the injection more painful. Salicylic acid is not so painful, but it is much less effective. Glycerine, employed originally by Hildebrandt, but now abandoned, if strong enough to be antiseptic, causes too much irritation after injection. Additions of sublimate, with which Engelmann made repeated experiments, always gave the same results, such solutions up to 1 per millimètre having only a small preventive effect.

Thus, antiseptics, used in such quantities as not to have disagreeable or dangerous effects, have but a limited effect in preventing multiplication of microbes. Hence Engelmann tried to prevent decomposition by sterilisation of the mixtures. Little flasks of the mixture (1 to 4) were first carefully sterilised by heat, and then exposed in an apparatus to a jet of steam for an hour; others were simply kept for an hour in quickly-boiling water. This method prevents decomposition for from six to eight days, and should be repeated every week. Perhaps the best way is to make the mixture immediately before using it. A certain quantity of ergotine is put into the syringe, care being taken that the glass used to pour the ergotine is perfectly free from fungi; then distilled water, sterilised by boiling for half-an-hour, is poured in, the two being mixed by shaking.

Engelmann has found in ergotine mixtures 11 different kinds of microbes that liquefy gelatine (8 bacteria and 3 micrococci), and 22 microbes that do not liquefy gelatine (5 bacteria and 17 micrococci).

JOHN ELLIOTT.

ARTICLE 6123.

RIEGEL ON DIAGNOSIS AND TREATMENT OF GASTRIC ECTASIA.

INSPECTION is sometimes sufficient to detect ectasia of the stomach. A second symptom, which has, however, been much misunderstood, are the splash-sounds, as distinguished from the rumbling and clapping sounds (*Deutsche Med. Wochensch.*, No. 37, 1886). The first are caused by the presence of air and water in the stomach, the two latter by the presence of air alone. In diagnosing gastric ectasia the first only are to be considered, though they are by no means decisive by themselves. They indicate ectasia only when tapping with the fingers produces the splashing sound over an abnormally large area extending to below the navel. But even this is not sufficient, since an abnormal position of the stomach arising from other causes may produce this sound. This possibility must be excluded before splashing sounds may be considered as a symptom of ectasia. The result of auscultation Riegel does not consider important.

Palpation may under certain conditions be very valuable; but to be so, not the finger tips, but the slightly-curved palm, must gently stroke the part downwards and beyond the gastric region. Often, when nothing has been gathered from inspection, you feel plainly the tension of the stomach and its extent. Again, palpation is as little sufficient by itself as any one of the other methods.

By *percussion* the contents of the stomach are determined according to the different kinds of sounds—metallic, tympanic, and dull. But in many cases this does not give a decisive result, though there be pronounced ectasia. When, in addition, there is a large quantity of fluid in the stomach, there is in the erect position of the body a remarkable area of dulness at the lower limit of the stomach, the upper line of dulness running horizontally, the lower running convex downwards. It may sometimes be well to use percussion before and after the patient has swallowed a considerable quantity of fluid.

Frerich's plan of inflating the stomach with carbonic acid is mentioned, with the caution not to adopt it in any case that is at all doubtful.

Leube's method of feeling with the point of the probe, Riegel thinks, cannot be relied on, and is by no means unattended with danger.

Vomiting of plentiful remains of food also indicates ectasia. These are briefly the chief criteria of ectasia. Turning to the actual diagnosis, Riegel reminds us that ectasia of the stomach does not represent a special form of disease, but is only a resulting condition, the stomach being extended and unable to discharge its contents at the proper time. This inability may eventually cause chronic ectasia; hence the importance of its being early detected.

It is comparatively easy to detect a tumour in the region of the pylorus as the cause of the ectasia. But even here mistakes are possible.

Much more difficult are those cases in which there is no tumour, nor any indication of stenosis of the pylorus, nor, in fact, any apparent cause. Riegel even doubts whether stenosis and ectasia stand in the exact relation of cause and effect, but thinks it far more probable that other factors (especially serious disturbances of the chemical process of digestion) contribute to the origin of ectasia.

In order to determine the true cause, we must bear in mind that the real significance of the ectasia is that the stomach is unable to discharge its contents at the proper time. The cause of this inability may either lie in the chemical or motor functions. The first step, therefore, is to determine whether the chemical functions are normal or disturbed; and if the latter, why. Even if there be an evident mechanical obstruction at the pylorus the state of the secretion of the juices must be examined, as it will probably be disturbed, and as it is chiefly with it that the treatment will have to deal. To test the secretion it will be necessary to give a trial meal, and in about six hours to examine the contents of the stomach. The latter must also be examined with regard to the presence of free hydrochloric acid and organic acids, and the state of their digestive power. For this, Congo paper is of great value. In some cases there is considerable decrease of free hydrochloric acid, in others an increase of acid contents, and in others, again, large quantities of organic acids; while sometimes the secretion of juices will be found to be perfectly normal. Only in this latter case can the question arise as to the inability being caused by the failure of the purely motor or muscular functions. Even when ectasia has been caused by habitual eating to repletion, it will probably be found that in consequence of the excess of indigestible substances the chemical process of digestion has been disturbed; and, consequently, the ingesta remain unduly long in the stomach and thus paralyse it, the result being ectasia.

As to the *treatment*, it must be a causal one; and not directed in the first instance against ectasia If the chemical functions of the stomach be deranged, they must in the first instance be rectified. Then must follow a proper diet. In hyper-secretion and hyper-acidity, alkaline remedies are required; if there be want of secretion, artificial means must be resorted to to supply it. Washing out of the stomach—though valuable, nay indispensable, as a help—rarely affords relief by itself. Similarly, electricity and massage are sometimes useful, if after the secretory functions have been rectified there remains a certain amount of motor weakness, as well as in the infrequent cases of primary motor-insufficiency. JOHN ELLIOTT.

ARTICLE 6124.

TOMMASOLI ON THE TRANSMISSIBILITY OF PSORIASIS IN THE RABBIT.

IN November 1885, Dr. Oscar Lassar exhibited at the Medical Society of Berlin (*Gazz. degli Ospitali*, May 30 and June 2, 1886) three white rabbits, on whose skin there were red scaly patches scantily supplied with hair. The skin of these patches was hard, thickened, and inelastic; the scales were brilliant, and bleeding took place readily. These patches had made their appearance in this way. A soldier, affected with psoriasis, was under Lassar's care. From one of the diseased patches of the patient the physician took, by shaving or scraping, a mixture of blood, lymph, and epithelial scales. With this mixture he vigorously rubbed the skin of one of the rabbits. Three weeks later, the diseased spots above described began to show themselves. After some time he repeated the operation upon the other two rabbits; this time, however, not from the man, but from the rabbit first affected. In these cases the spots appeared after a lapse of only ten days. From these experiments, and from other similar ones that he had successfully performed in previous years, Lassar concluded that, by means of human psoriasis, he was able, though not in all cases, to reproduce in the rabbit a skin-disease bearing a remarkable resemblance to psoriasis.

To the further study of the question, Dr. Tommasoli applied himself. Having under treatment a man suffering from psoriasis, he collected, by scraping from the diseased patches, a mixture of blood, lymph, and scales. Five rabbits were selected for experiment. In the first, a spot on the shoulder was shaved, care being taken to avoid any injury to the epidermis. Into this place the psoriasis products were rubbed. A protective layer of white of egg was then brushed over the part, and the animal was kept at rest till the whole was dry. A second rabbit was treated in the same way, except that very light incisions, so as not to draw blood, were made in the shaven skin. A third rabbit was dealt with like the first; slight excoriations, however, were unintentionally produced; and a further inoculation was made on the inside of the ear by means of superficial linear incisions. The experiment on the fourth rabbit was somewhat different. The secretions and scales from the psoriasis patches were mixed with a 0·75 per cent. solution of chloride of sodium; and when the scales had been reduced by long trituration to an exceedingly fine condition the trachea of the rabbit was laid bare, and two-thirds of a Pravaz's syringeful injected therein. The remaining third of the syringeful was injected into the peritoneum of a fifth rabbit. Of these five rabbits, two, namely, the one whose trachea and the one whose ear as well as shoulder had been operated upon, died after five and seven days respectively. In the first two of the remaining cases, the skin appeared quite sound till about the sixteenth day, when it was noticed to be pale in the spot that had been rubbed with the diseased secretions. About five days later this spot became dark red and then scaly. In the peritoneal case the manifestations of disease showed themselves a little later, but were of the same description. From this last case blood was taken from the jugular vein and injected into two other rabbits. In these cases, the usual spots appeared about eleven days after the inoculation.

From all the evidence before him, Dr. Tommasoli draws the following conclusions. 1. By means of a mixture of blood, lymph, and epithelial scales taken from a patch of human psoriasis, there is produced in the rabbit a skin-disease having great resemblance with the disease in man. 2. The disease established in the rabbit is transmissible to other rabbits. 3. Transmission is obtainable in several ways; for example, from man to the rabbit by the skin and by the peritoneum; from rabbit to rabbit by the skin, and also by the blood. 4. The period of incubation is much shorter in the infection from rabbit to rabbit, than in the infection from man to rabbit. 5. The affection is milder and lasts a shorter time when derived from a previous rabbit, than when derived from man. 6. The kind of rabbit has little or no influence on the nature and degree of the cutaneous malady.

The microscopic examination of specimens from the rabbits showed that the horny layer of the skin was thickened; in some points there were little elevations containing a finely granular substance, probably exudation. In this substance, which stains well, are seen roundish bodies resembling more or less well-preserved leucocytes. The Malpighian layer is here and there thickened; its elements are larger than in the normal skin, and contain swollen and granular nuclei. The author will probably return to the subject before long.

William R. Huggard, M.D.

Article 6125.

BIEDERT ON A METHOD OF DISCOVERING TUBERCLE-BACILLI IN SPUTUM, WITH GENERAL REMARKS ON THE ETIOLOGY OF TUBERCULOSIS.

It was shown by Deutschmann that when tuberculous pus is set aside to stand, inoculations made with the supernatant liquor have no effect, whereas tuberculosis readily followed the use of the deposit that had settled at the bottom of the glass. This experience is thus utilised by Dr. Biedert (*Berliner Klin. Wochensch.*, No. 42). A little of the sputum (to be examined for bacilli) is mixed with twice its bulk of water, and a few drops of caustic soda are added to liquefy the mass, which is now to be boiled (sputum ʒj., water ʒij., soda solution, ♏15). Then four more teaspoonfuls of water are added, and the liquid is again boiled and set aside in a conical glass for a few days. If the fluid be not quite thin now, a little more water may be added.

The upper layers of the liquid will be found to contain no bacilli, any of which will have subsided to the bottom of the glass. Nearly all the liquid is then poured off, and the deposit is examined on a cover-glass in the usual way. It must be observed, however, that the albumen being dissolved by the soda, the bacilli may easily be washed away during staining, even after the glass has been passed three times through the flame of a spirit lamp. To prevent this it may be advisable to add a little white of egg beforehand. If the original sputum contained any bacilli, these will now be abundantly manifest under the microscope.

This method was first found practically useful in a case of chronic bronchitis, slight (purulent) pleuritic exudation, and scattered thickenings; the expectoration was of uniform character, apparently simply bronchitic. Dr. Biedert's assistant, Dr. Schröter, with difficulty saw a single bacillus in the sputum, which, however, on being treated as above, showed them easily, and the *post mortem* examination revealed small softened bacillary foci. Conversely, the absence of bacilli can be asserted much more safely than by the old haphazard way of dealing with the sputum as a whole.

Most bacilli were to be found after two days only of rest, and two methods of staining were used to prove this—viz., Ehrlich's and the Neelsen-Johne stains. The first is as follows:—Staining with fuchsine-aniline-solution by warmth, decolorisation with alcohol and dilute nitric acid, washing in distilled water, and re-staining with malachite green. The second is thus:—Soaking the cover-glass for an hour in carbolic acid and fuchsine solution (carbolic acid 5, aq. dest. 100, fuchsine 1·0, and alcohol 10 parts), decolorising in sulphuric acid (25 per cent.), and restaining as above. Now, whichever method (especially if Ehrlich's) was used, the bacilli were found to be more scanty if the sputum-deposit were left longer than two days, than if examined at the end of this period. This is apparently due to alkaline action, and this presumption is supported by the fact that if more soda solution be used in the first instance, fewer bacilli are found. Several experiments proved this beyond all doubt. Not only were the bacilli seen fewer when more soda was used, but their colouring property was affected; *i.e.* they coloured less readily when the purely acid decolorising fluid of the Neelsen-Johne method was employed, and still less with the alcoholic acid of

Ehrlich's method. It is probable, therefore, that an albuminous layer, which otherwise retains the colour well, is removed by alkalies, and also that some fatty constituent is removed by alcohol. In fact Bienstock (*Fortschritte der Medicin*, No 6, 1886) cultivated non-tubercular bacilli in a fatty nutrient basis and thus obtained bacilli, having the staining characteristics of tubercle- and syphilis-bacilli.

The above observations show that tubercle-bacilli may vary in their staining capabilities, and this supports the view already taken by Dr. Biedert (*see* Virchow's *Archiv*, Band xcviii., pp. 98–99), that *tubercular* diseases, in which no bacilli or only very few are to be found, can only justifiably be termed *bacillary* diseases on the assumption that the great majority of the bacilli are not evident to the view owing to alterations in their staining properties. For neither can the explanation be accepted that the few organisms found account for the whole extension of the tubercular process, nor that their work being done they have withdrawn themselves from active agency, nor, finally, that they do exist, but only in the form of invisible spores.

Another peculiarity—viz., the splitting up of the bacilli into rows of granules, as mentioned by Cornil and Babes (*Les Bactéries et leur Rôle, &c.*, Paris, Alcan, 1886, p. 685), now confirmed by Lutz (*Ueber die Beziehungen zwischen Stäbchen und Coccen, Fortschritte der Medicin*, 1886, No. 10) has already been published by both Zopf and Biedert.

The above method of boiling with caustic soda is not so applicable to the tissues as are teasing methods, such as Biedert gives in the article quoted. Its advantage, however, is twofold as regards the sputum. In the first place practically, and next scientifically—viz., by enabling us to determine positively whether bacilli are absent all through the course of a disease, or only during certain periods. Upon the investigations made in regard to this (*see* Virchow's *Archiv*, Band xcviii.), Biedert has founded an explanation of the origin of ordinary 'focal' pulmonary phthisis, which depends on the following arguments :—

1. Experiments so far with pure cultures of tubercle-bacilli have always produced miliary tuberculosis, and never pulmonary phthisis with cheesy centres, and accordingly the bacilli alone cannot be regarded as the exclusive or ordinary cause of the latter.

2. Only a certain proportion of the population are attacked by phthisis, a fact which is inexplicable, if we consider the very prevalent bacilli as the sole cause of phthisis, as the alleged subsidiary causes—*e.g.* thoracic conformation, size of heart, defective blood-formation, general debility, and congenital vulnerability of the tissues—do not affect the main point in question—*i.e.* the immediate processes in the lungs when phthisis originates.

3. The general influences just mentioned as inherited are even less explanatory still of the far greater number of cases of *acquired* susceptibility to phthisis; in short, phthisis does not depend upon a simple infective virus, which, considering its universal prevalence and the liability of mankind to its attack at all ages, would be far more prevalent than even that of measles.

All difficulties, however, are resolved by a recurrence to the old view before the discovery of the bacillus, that phthisis originates as a chronic pneumonia, which subsequently 'tuberculizes' under the influence of the tubercle-bacillus. Every non-specific process going on in the lungs, causes the formation of a preparatory centre, which both facilitates the fixation of the tubercular bacillus and retains it there, so that manifestly a local process—viz., 'phthisis,' originates, and not a 'disseminated tuberculosis.' Whether small or large, these centres have one property in common, their richness in cells, some of which at last, too far removed from any nutritive channels, fall an easy prey to the slowly developing tubercle-bacillus, whilst the more peripheral and better nourished zones successfully resist its invasion. We have observed (Biedert and Siegel, *loc. cit.*, Virchow's *Archiv*) cases of non-bacillary disease which have transided into true (bacillary) phthisis. Baumgarten has assumed that the non-bacillary zone of infiltration surrounding a central bacillary infiltration is due to a reactionary inflammation, secondary to the presence of the bacilli. But it is evident that the peripheral zones would be richest in bacilli, if the latter were the only causes of ordinary phthisis.

Cases of transition of pneumonia into phthisis after measles and whooping-cough are explained on the above theory. Demme (22 *Bericht über das Jenner'sche Kinderhospital für* 1884, p. 40) has observed this transition. Frobelius has lent a great support to the theory of preparatory pneumonia, founded on numerous and important clinical and anatomical observations in the Findelhaus in St. Petersburg, which showed that the number of phthisical cases was always in direct proportion to the number of cases of preceding catarrhal pneumonia amongst the children under his care. I have two such cases to report, free from all objection. Cornil and Babes in their large volume already quoted, speak most distinctly of 'preparatory lesions.'

[It will be of interest to adduce what Cornil and Babes say on this head in *Les Bactéries et leur Rôle, &c.*, 1886, p. 729. 'In other words, the inhalation of dust gives rise to a certain degree of pneumonia, and this broncho-pneumonia predisposes the lung to become a favourable site of culture for the bacteria.' They also quote Wechselbaum—*Medicinischer Jahrb.*, Heft 2, p. 179—as showing that when animals inhaled (tubercular) sputa with water in a spray, 'the first effect was always the swelling and desquamation of the (alveolar) epithelium, and then the exudation of lymphoid cells. Verragut (*Archiv für Exp. Pathol. und Pharm.*, 1883, No. 17) found that in rabbits thus treated the initial lesions consisted in the presence of bacilli within the proliferated epithelium. Klebs also (*Archiv für Pathol.*, Tome xvii., p. 52) mentions the cellular accumulations in the perivascular spaces at the commencement of the granulations. Biedert and Siegel, moreover, are of opinion that tubercular bacilli are always preceded by preparatory lesions, consisting in a cellular infiltration. The coexistence of pneumonic lesions and of bacillary invasion cannot be denied. One of the best proofs of the part played by pulmonary irritations in preparing the lung for tuberculosis is given; viz., the fact, established by A. Johne (*Fortschritte der Medicin*, 1883, No. 21), that cows exposed to the smoke of iron foundries and breathing much dust die in large numbers from a pulmonary affection that was supposed to be due solely to sulphurous and arsenious acids, but which, in reality, is due to bacillary tuberculosis favoured by pulmonary inflammation. Hence also the forms of phthisis due to inhalation, *e.g.* miners' phthisis, &c., though here we have a special form of inflammation—the slate-coloured interstitial kind. Lastly, the nodules, islets, or more considerable masses of catarrhal or acute (or subacute) fibrinous pneumonia, which so often accompany the evolution of tubercles, present pneumonococci, as already mentioned (Sammter, Biedert and Siegel).' It is satisfactory to reflect that the absolute supremacy of the bacillus tuberculosis in ordinary chronic phthisis, is attacked from so many sides, and that there is a prospect of some harmony between clinicians and pathologists in this matter.—*Rep.*] E. J. Edwardes, M.D.

SURGERY.

RECENT PAPERS.

6126. Brydon.—A Case of Strangulated Hernia treated by Puncture. (*Brit. Med. Jour.*, October 1886, p. 629.)

6127. Annandale. — On Suprapubic Lithotomy. (*Brit. Med. Jour.*, October 1886, p. 676.)

6128. Wile.—On Resection of the Entire Shaft of the Tibia for Necrosis. (*Brit. Med. Jour.*, October 1886, p. 675.)

6129. Mac Cormac.—A Case of Suprapubic Lithotomy in a Boy. (*Lancet*, September 1886, p. 582.)

6130. Parrott.—A Case of a Fall from 110 Feet. (*Brit. Med. Jour.*, September 1886, p. 451.)

6131. Thomas.—A Remarkable Injury to a Finger. (*Brit. Med. Jour.*, September 1886, p. 474.)

Art. 6126. *Brydon on a Case of Strangulated Hernia treated by Puncture.*—In the *Brit. Med. Jour.*, October 1886, p. 629, Dr. Brydon relates a case of strangulated hernia relieved by puncture. The patient was a thin, average-sized man, aged 63, who had been troubled for some years with a hernia. On Aug. 7 he was seized with a sharp attack of diarrhœa; next morning, while straining at stool, the hernia suddenly appeared in the left scrotum. Three hours afterwards, when seen by the author, the tumour was red and glistening, and reached half way down to the knee. Symptoms of strangulation were well marked. All kinds of methods of manipulation were tried without avail, and taxis under chloroform was twice attempted with no better result. As a large portion of the tumour was tympanitic, it was decided to introduce a small trocar and cannula; by this means the hernia was reduced to one-third of its original size, and its contents were at once easily returned into the abdominal cavity. Next day the patient was comparatively well, but was kept on milk diet for a day or two. The bowels were moved naturally that night, and three days after he was able to go about the house. [For similar cases *vide Medical Digest and Appendix*. In the *Medical Press and Circular*, June 1886, p. 583, two fatal cases are recorded by Dr. Foy.]

6127. *Annandale on Suprapubic Lithotomy.*—In the *Brit. Med. Jour.*, October 1886, p. 676, Professor Annandale briefly states the steps of his method of performing suprapubic lithotomy in male children. 1. The gradual and thorough dilatation of the bladder by the injection of some antiseptic fluid. 2. The introduction of a lithotrite, and the seizing and fixing of the stone in its blades. 3. The depression of the handle of the lithotrite so as to press the stone against the abdominal wall immediately above the pubes, in the middle line. 4. Cutting down through the abdominal wall, in the middle line, upon the pubes, and immediately above it, in the usual way, until the bladder is reached. 5. Depressing the handle of the lithotrite still more, so as to stretch the wall of the bladder over the stone, and make it prominent at the wound. 6. Incising the stretched bladder wall upon the stone to a sufficient extent in a direction downwards, and then protruding, through the opening, the stone and blades of the lithotrite. 7. Gently opening the blades of the lithotrite and removing the stone, and in withdrawing the lithotrite, catching one end of an India-rubber catheter in its blades, and bringing it out through the urethral orifice, the other end of the catheter being left in the bladder. 8. Stitching the wound in the bladder with two or more catgut sutures (unless it is small, then it can be left alone), then stitching the wound in the abdominal wall, and introducing a drainage-tube at its lower end.

6128. *Wile on Resection of the Entire Shaft of the Tibia for Necrosis.*—In the *Brit. Med. Jour.*, October 1886, p. 675, Dr. Wile records the case of a boy, aged 12 years, who struck his shin against an iron rail, causing severe contusion and subsequent inflammation of the leg. The boy inherited a scrofulous tendency, and soon after the accident the leg commenced to discharge, and the bone was noticed to enlarge considerably. Two years afterwards, when seen by the author, there were three openings noticed leading down to dead bone, and the tibia was much enlarged. It was decided to remove the dead part of the tibia, and, after placing the patient for one month upon nutritious diet with cod-liver oil and tonics, under ether an incision was made down to the bone. It was found necessary to remove the entire shaft of the tibia; the periosteum was carefully peeled off, and kept intact as much as possible. After removing the shaft, a considerable quantity of diseased bone was removed with the gouge from each epiphysis. After very thoroughly cleaning out the wound, the cavity was packed with absorbent cotton moistened with a solution of carbolic acid (1 in 20). The boy made a good recovery. After two months he was able to allow a shoe to be fitted on, with supports attached above the knees. By this time the wound had healed, and he could walk on crutches.

6129. *Mac Cormac on a Case of Suprapubic Lithotomy in a Boy.*—In the *Lancet*, September 1886, p. 582, Sir Wm. Mac Cormac records a case of suprapubic cystotomy where the wound healed by first intention. A lad aged seven and a half years was admitted into hospital on July 20, 1886. A few days afterwards a stone was detected in the bladder, and on July 31 he was placed under chloroform in order to undergo lithotomy. The author drew off the urine through a No. 2 catheter, afterwards washing out the bladder with a 5 per cent. solution of boracic acid, the bladder being well distended with some of this solution. The catheter was then plugged and retained. A small Barnes's bag was placed in the rectum and distended. This lifted the bladder to within one inch of the umbilicus. An incision was made in the middle line, 2½ inches long, terminating just above the pubes. This incision was carefully carried down until the bladder was exposed, no peritoneum being seen. Two stout silk sutures were passed through the bladder on either side and held up. The end of the catheter was then pointed between these sutures, and an incision large enough to admit a finger was made upon it. Through this a small mulberry calculus was extracted without difficulty by means of lithotomy forceps. The whole wound was carefully cleansed. The vesical wound was united with catgut sutures, as well as the several tissues cut through, except at the upper end of the wound, where a drainage-tube was inserted. The wound was dressed with iodoform and iodoform gauze, and over this a covering of salicylic wool was applied as a pad. The catheter was withdrawn. Six hours afterwards, no urine having passed, the catheter was reintroduced, and an ounce of blood-stained urine was drawn off. Next day about ten ounces of urine passed naturally, the blood gradually diminishing, and twenty-four hours after the operation the urine was normal. On Aug. 2 the wound had united by first intention. On the 4th the sutures were removed. On the 7th the child was playing about, the temperature having never exceeded 99°·4. The patient was kept under supervision until Aug. 18, when the cicatrix was found firm and painless.

6130. *Parrott on a Case of a Fall from 110 Feet.*—In the *Brit. Med. Jour.*, September 1886, p. 451, Mr. Parrott relates the case of a man, aged 40, weighing 14 st., who fell from the steeple of a church, a distance of 110 feet. In his descent he broke a scaffold-pole, then fell through the wooden roof of an engine-house below, breaking several planks and two strong joists, on to some sacks of cement inside. He was unconscious for some time after the accident, and on examination was found only to have broken the left tibia just above the ankle, to have dislocated the left metacarpus from the carpus, and to have sustained some bruises about the back and hips. In twelve days the man was able to leave the hospital with his leg in a plaster-of-Paris splint.

6131. *Thomas on a Remarkable Injury to a Finger.* In the *Brit. Med. Jour.*, September 1886, p. 474, notice is directed to a case reported by M. Thomas to the Paris Society of Surgeons. A man, on going home late without his key, wished to climb an iron railing with sharp-pointed tops. When dropping down he felt himself retained by his third finger, which gave way at last. On looking at his hand he found the third finger completely stripped of its integuments. The finger without the bone was found caught on the railing by a ring. An hour afterwards M. Thomas saw the patient, and reintroduced the bone into the finger, applying two sutures. The extremity of the finger became gangrenous, but the patient recovered with nearly a phalanx and a half of his finger. The author was not aware of any such case on record.

RICHARD NEALE, M.D.

MEDICINE.

RECENT PAPERS.

6132. LORIMER.—Saturnine Gout and its Distinguishing Marks. (*Brit. Med. Jour.*, July, p. 163.)

6133. HUMPHREYS.—Acute Œdema of the Lungs; Disease of the Tricuspid Valve. (*Brit. Med. Jour.*, July, p. 65.)

6134. STOKES.—Acute Myxœdema following Thyroidectomy. (*Brit. Med. Jour.*, October 1886, p. 709.)

6135. STOCKER.—On Black Tongue. (*Brit. Med. Jour.*, October 1886, p. 629.)

6136. GOODING.—On Cirrhosis of the Liver. (*Brit. Med. Jour.*, October 1886, p. 676.)

6137. COLLIER.—On Flat-foot. (*Lancet*, September 1886, p. 441.)

6138. LAMAILERÉE.—Triple Contagion of Tuberculosis. (*Gaz. Méd. de Paris.*)

6139. DIEULAFOY.—On Bright's Disease without Albuminuria. (*Journal des Sociétés Scientifiques*, June 14.)

6140 MÉNIÈRE.—On the Connection between Noises in the Ear and Stomach Affections. (*Revue de Laryngologie et d'Otologie.*)

6141. OLLIVIER.—Hæmatemesis in Hysterical Patients of both Sexes.

6142. PULIDO, A.—Immunity in Cholera. (*El Siglo Medico*, Nos. 1695–99, 1886.)

6143. ROSSONI, E.—Hysterical Anuria. (*Riv. Clinica*, Nos. 10 and 11, 1885.)

ART. 6132. *Lorimer on Saturnine Gout, and its Distinguishing Marks.*—In the *Brit. Med. Jour.*, July 1886, p. 163, Dr. Lorimer gives his experience of 107 cases of gout due to plumbism. The first attack, due to lead-impregnation, occurs at an earlier age than when independent of it. In nearly 70 per cent. it occurred before the age of 35. The influence of direct hereditary predisposition is very slight, not more than 1 in 12. In ordinary gout there is no marked anæmia, but in saturnine cases it is found in about three-fourths of the patients. The type of arthritis is, as a rule, adynamic; this is contrary to what might be expected, seeing the patients are generally young and active. The local and constitutional phenomena are less intense, but more persistent, lingering, and obstinate, and show a tendency to pass insidiously into a chronic form. In saturnine gout, albuminuria occurs in ten cases out of twelve, whereas, in ordinary gout, Dr. Garrod has only found it in about 25 per cent. of cases. There is no sign in saturnine gout more constant than albuminuria. The specific gravity of the urine is about 1012; the quantity of uric acid is diminished, and is absent altogether in the final stages. In about two-thirds of the cases, arterial thickening and degeneration was noted. This consisted in a sclerosis of the arterial coats along with atheromatous changes, a premature ageing of the arterial system. The cutaneous manifestations of gout, such as eczema and psoriasis, are seldom present, and gouty affections of the eyes are of infrequent occurrence. The joints affected in the 107 cases are thus tabulated. Joints of feet in 28 cases; joints of the hands in 20; joints of hands and feet both in 34; the knee in 25, and in 4 of these the elbow as well. In 23 cases, tophaceous deposits were noted on the helix of the ear.

6133. *Humphreys on a Case of Acute Œdema of the Lungs; Disease of Tricuspid Valve.*—In the *Brit. Med. Jour.*, July 1886, p. 65, Mr. F. R. Humphreys records the case of a woman, aged 38, to whom he was called suddenly, and found her freely vomiting a thick frothy substance. The patient was in a state of collapse, and the case was diagnosed as one of acute œdema of the lungs. The history was as follows. For two days she had noticed a slight cough, and about two hours before the attack she had eaten a hearty meal, then started to walk two-and-a-half miles. When within a few yards of her destination she became suddenly unwell, and at once returned home in an omnibus, expectorating some blood-stained fluid on the way. Soon after reaching home she began to vomit. About an hour afterwards Mr. Humphreys was sent for, and, on seeing her, it was evident that the vomiting would soon kill her if not checked. A little chloroform was given by inhalation, producing some ease, but the pulse suddenly collapsed, and all attempts at restoring life were useless. On making a *post mortem* examination, the right side of the chest appeared quite filled up with lung; the left less so. Gentle pressure of the lungs caused foam to issue from the mouth. On section, some muco-purulent fluid could be squeezed out. The heart was small and flabby, and the tricuspid valve was atheromatous and incompetent. The author subsequently learnt that the patient had twice suffered from rheumatic fever, and seven years previously she had an attack of paralysis of the left side.

6134. *Stokes on Acute Myxœdema following Thyroidectomy.*—In the *Brit. Med. Jour.*, October 1886, p. 709, Sir Wm. Stokes records a case of thyroidectomy followed by myxœdema. The patient was a young girl of 18, who was in excellent health in every way except that she suffered from an extensive enlargement of both lobes of the thyroid. As far as intellectual capacity went, she was looked upon as the bright one of the family. Besides the trouble caused by the deformity, the girl was seized at times with urgent dyspnœa, and for these reasons the author decided to perform thyroidectomy. On Oct. 21, 1885, the left lobe was removed, much difficulty being experienced on account of severe hæmorrhage, causing almost fatal collapse before the operation was completed. The patient, however, rallied wonderfully, and for a time it seemed as if the excision of one part of the tumour would cause a shrivelling of the remaining part, but in the course of six weeks the right lobe began to enlarge, and the dyspnœa returned. On Feb. 3, 1886, the author decided to remove the remainder of the mass. This was done after an hour and a half's constant fighting with the dreadful hæmorrhage that was met with at each step of the operation, the patient being only kept alive by means of ether injections and enemata of brandy. The case went on very well for the first ten days, but on Feb. 15 the girl was seized with a convulsive seizure which lasted about a minute. On subsequently examining her, the author noticed a puffy swelling about the eyelids, and a similar condition on the backs of the wrists and feet. There seemed also some mental torpidity. A few days later there was evidence of pulmonary infiltration, and the aspect of the girl was that of an imbecile. On Feb. 22 she had more convulsive seizures, and the lung-infiltration became most intense, and on the 24th death ensued from exhaustion. Attention is drawn to the rapid onset of myxœdema in this case, while some remarks on two cases of bronchocele operated on by the author conclude this interesting communication. In one of these cases the tumour was mainly one of the isthmus, though the lateral lobes were manifestly enlarged. In this instance it was decided to remove only the centre of the tumour, and the operation, which was very difficult, was followed by complete shrivelling of the lateral lobes, without any subsequent signs of myxœdema. In the second case the patient was a youth, aged 15, with only slight enlargement, and all that was done in the shape of an operation was the simple division and ligature of the isthmus. The result was most satisfactory, and five months afterwards the boy reported himself in perfect health. These two cases show what good results follow partial excision of the gland, without the subsequent danger of myxœdema. [In the appendix of the *Medical Digest*, section 1,700 : 4, many cases are noted, showing the value of the division of the isthmus alone.—*Rep.*]

6135. *Stocker on Black Tongue.*—In the *Brit. Med. Jour.*, October 1886, p. 629, Mr. Stocker, M.B., forwards a short account of a case of black tongue. The patient was a nautical officer, aged 47. About a year before he lost his wife and became very low-spirited, often resorting to chloroform to obtain sleep. When he first noticed the condition of his tongue he was in good health, but had been suffering for some two or three weeks from a lawn-tennis leg. On June 16 he accidentally discovered on the dorsum of the tongue, a large, dark patch, as large as half-a-crown. The size of the patch gradually increased, and he noticed a metallic taste in his mouth. Every morning he used a whalebone scraper, and sponged the tongue with boracic acid; by this means small shreds were separated. The colour toned down from black to brown, from the centre to the sides, and in about two months gradually disappeared, leaving the organ rather coated. Several cases of this singular disease are referred to in sect. 20 : 3 and 803 : 4 of the *Medical Digest* and Appendix.

6136. *Gooding on Cirrhosis of the Liver.*—In the *Brit. Med. Jour.*, October 1886, p. 676, Dr. Gooding records two cases of advanced cirrhosis of the liver treated most successfully by complete abstinence from alcohol. One case was that of a woman, aged 55, who was first seen when the disease was well advanced. She was lying in bed, propped with pillows, much emaciated, and had a yellowish skin. The abdomen was distended with ascitic fluid, and the digestive functions were completely disorganised. The first part of the treatment consisted in the complete withdrawal of alcohol in every form. Small doses of calomel were given frequently, until mild salivation was produced; this was persistently maintained for seven or eight weeks. One week after commencing this treatment, tapping was resorted to, and a pailful of fluid withdrawn; six weeks later this had to be repeated; after this no more fluid was effused. The mercury was then discontinued, and at the expiration of a few days, when all traces of salivation had disappeared, nitro-hydrochloric acid and bitters were administered. The appetite improved, the skin gradually lost its yellow tinge, and the patient became ruddy and fat. The second case was that of a man, aged 60, who had always been fond of his sherry and whisky. All kinds of remedies were tried, and the patient diminished his quantity of stimulants. Nothing, however, proved of any use, until he completely gave up all stimulants, and underwent a course of mercury, followed by the administration of nitro-hydrochloric acid in increasing doses. After several weeks he began to mend, and made a perfect recovery.

6137. *Collier on Flat-foot.*—In the *Lancet*, September 1886, p. 441, Mr. Collier states that the present treatment of flat-foot is founded on erroneous notions of its anatomy and causes. The chief cause of 'flat-foot' cannot be due, as stated by most authors, to a 'general want of tone in the fibrous structures of the body.' Ligaments do not grow weak and atonic first, and then stretch, but after being unduly strained they then grow weak and stretch. As long as the foot rests on a horizontal surface, the os calcis is capable, in its normal position, of supporting the astragalus and any reasonable superimposed weight without the intervention or necessity of ligaments or other bonds of union. If the heel be raised above the level of the toes, the weight of the body is thrown on the calcaneo-scaphoid, interosseous, and plantar ligaments. These ligaments can stand an occasional strain, but when this becomes constant they become stretched, weakened, and atrophied. For the prevention of flat-foot, the author says, 'Do not wear a heel; let the sole of your foot be perfectly flat.' The treatment of these cases is simple enough when not too far advanced; good food, fresh air, and as much rest as possible, with a radical change in the construction of the boot. The toe and heel should change places as it were; a good laced boot should be worn, with the sole quite an inch thick in front, fining off to a line or two at the heel. By this means the normal inclination of the os calcis would be maintained and the weight of the body properly disposed of.

6138. *Lamailerée on Triple Contagion of Tuberculosis.*—In the *Gaz. Méd. de Paris*, Dr. de Lamailerée records the following interesting facts. In 1872 a young man, who had contracted bronchitis whilst a prisoner in Germany during the war, settled down in a little village where phthisis had never been known. Soon afterwards he married a strong healthy girl, and about the same time he began to spit blood. Within a year of the marriage a son was born, and the father died of consumption. Soon after his death the widow had bronchitis, and in a little time tuberculosis of the lungs was manifest. The child rapidly developed consumption also. A short time after, the physician attending this woman was called to another young woman in the same village who showed evident signs of phthisis. On carefully investigating the case it was found that this second patient was in the habit of having fowls from her invalid neighbour, and she had actually eaten eleven of these fowls that had died during the last four months. She had moreover eaten them very underdone, believing they were more nourishing when but slightly cooked. It was further discovered that these fowls had swallowed some of the sputa expectorated by the first patient. On making a necropsy of one of the fowls, it was found that the liver and intestines were filled with tubercles. The contagion had evidently been conveyed from one patient to the other through the fowls, thus proving the triple contagion of tuberculosis—1, From man to man; 2, from men to animals; 3, from animals to man. RICHARD NEALE, M.D.

6139. *Dieulafoy on Bright's Disease without Albuminuria.*—At a recent meeting of the Société Médicale des Hôpitaux, M. Dieulafoy described several cases of Bright's disease without albuminuria. Last November, a female patient in his wards presented the symptoms of a gastric ulcer—vomiting, pain in the stomach, and hematemesis. The vomiting increased, and resisted all coercive measures; milk-diet was adopted, and cucaine mixed with morphia was administered, with negative results. The patient suffered from intense and constant cephalalgia. The urine was examined daily, but the presence of albumen was not detected in it. The temperature was normal, varying from 37° C. to 36° (98°·6 to 96°·8 F.). She was suddenly seized with epileptiform convulsions, became comatose, and died. At the necropsy, the stomach was observed to be in a normal condition; there was a limited area of suppurative pneumonia; also mixed nephritis. A second case was that of a patient who suffered from violent oppression. The dyspnœa was not accompanied by cyanosis; the lips were red, and fever was absent, characteristics of dyspnœa in Bright's disease. Three years previously the patient had suffered from violent attacks of suffocation, accompanied by angina pectoris. Nocturnal micturition was frequent; she suffered intensely from headache, and presented the phenomena of 'le doigt mort' (the dead finger). When auscultated on admission, a *bruit de galop* was heard. She was put on a milk-diet, and in a fortnight the daily quantity of urine passed increased from 200 to 600 grammes; the feeling of oppression disappeared. A daily examination failed to detect the presence of albumen. The patient was attacked with congestion of both lungs, and death ensued. On the day of her death the urine was slightly cloudy. The necropsy showed that both lungs were congested, with indications of former aortitis. The kidneys were normal, but the capsules were adherent; two or three small cysts were observed; the cortical tissue was thin and hard; microscopic examination revealed interstitial nephritis. In another case, described by Dr. Dieulafoy, the patient suffered from attacks of dyspnœa, vomiting, and the sensation of the dead finger; the urine was examined every day for a month, but no traces of albumen were detected. A fourth case exhibited the following symptoms. The patient was unusually obese; she frequently suffered from a feeling of oppression, also from attacks of vomiting; the symptom of the 'doigt mort' was present in this instance; also there was again entire absence of albuminuria. The urine was carefully analysed during eight months, and the result was negative. At the end of that period there was œdema of the lower limbs, and albumen appeared in the urine. The patient was seized with epileptiform convulsions, and died in a state of coma. M. Dieulafoy considers that the facts above enumerated prove that, in Bright's disease, albuminuria may be absent for weeks or months. To this proposition belongs its corollary, proved by another series of observations, that chronic albuminuria may exist independently of Bright's disease. M. Dieulafoy cited a case in which a patient free from Bright's disease passed urine containing albumen, and had done so for more than two years. It must, therefore, be admitted that the presence of albumen in urine is not a symptom of such semeiological importance as it is supposed to be. M. Dieulafoy considers that in those numerous cases where chronic nephritis is free from œdema and albuminuria, the diagnosis should depend on a careful clinical examination, and the grouping together of certain characteristic symptoms, such as buzzing in the ears, slight deafness, itching, frequent nocturnal micturition, and the sensation of the dead finger, special sensibility to cold localised in the lower part of the thighs, knees, and legs, *bruit de galop*, &c. M. Dieulafoy injected into the veins of a rabbit seventy grammes of urine passed by a patient suffering from Bright's disease without albuminuria. The animal weighed two kilogrammes. The results were negative. Ninety grammes injected increased the respiration. An injection of 160 grammes of this urine caused death, but not a smaller quantity. Another rabbit, after 160 grammes of urine, free from albumen, though passed by a patient suffering from Bright's disease, had been injected into its veins, was slightly affected, but nevertheless recovered completely. Another survived any dose under 285 grammes, but that quantity proved fatal. It would cause death in consequence of exaggerated vascular repletion, independently of the toxic properties of the urine injected.

6140. *Ménière on the Connection between Noises in the Ear and Stomach Affections.*—Dr. E. Ménière, in an article in the *Revue de Laryngologie et d'Otologie*, mentions the frequent connection which exists between noises in the ear and stomach affections. Dyspeptic or gastralgic patients suffering from these complaints are very numerous. In some cases, dyspnœa is accompanied with noises without the hearing being in any way affected. In those cases where there is no aural lesion, the cause of the symptoms should be sought for in the internal ear, and it will be found that some connection exists between complaints of this kind and vertigo of the stomach. The noises in the ear vary, sometimes resembling whistling or boiling water, but never the isochronous beatings of the pulse. Otologists should therefore carefully seek to discover, when patients complain of noises in the ear and deafness, if this state is not due to disturbance of the digestive organs. Noises in these cases are more frequently noticed during the second or third year, and even later; according to M. Ménière, they only affect one ear. M. Leven speaks of having met with cases where both ears were affected. When considerable deafness occurs it is often incurable. Under these circumstances, increase or decrease of noises is in some cases identical with the dyspeptic state of the patient. Local remedies give, as a rule, very poor results. The most rational course is to treat perseveringly the stomach affection, this being undoubtedly the origin of these painful complaints, which are liable to bring on serious disorders. Large doses of potassium iodide are successful where it can be taken. It is to be feared, however, that in some cases the lesions of the internal ear—although not serious—may prove sufficiently lasting to determine the persistence of more or less obtrusive noises.

6141. *Ollivier on Hæmatemesis in Hysterical Patients of both Sexes.*—M. Auguste Ollivier, of Paris, read an important paper at the Congress at Nancy on hæmatemesis in the absence of the catamenia. In cases of hysteria in both sexes hæmatemesis was met with, and appeared due to a special condition of the nervous system. He asserted that this variety of hæmatemesis, which was too often regarded as symptomatic of ulcer in the stomach, was in reality a form of local hysteria, with gastralgia, accompanied by hæmorrhage. The absence of any disturbance of the nutrition, the suddenness of the onset, the presence of nervous disturbance, and the prompt re-establishment of health, would generally serve as indications of the true nature of the complaint.

W. Vignal.

6142. *Pulido on Immunity in Cholera.*—The doctrine of the immunity conferred by the cholerigenic germ is maintained by many authorities, and is supported by the study of facts and theory. Statistics show that relapses are of very rare occurrence. It is a false idea that one attack increases the predisposition to a second. The immunity conferred by an attack is of uncertain duration, and varies with each subject. This immunity probably in all cases lasts but a short time, since the specific agent of cholera acts in virtue of its toxic action. The prophylaxis founded on the immunity of the subject, conferred by the impregnation of his organism by the pathogenic germ, whether by natural or artificial inoculation, is of most avail in countries in which the disease prevails as an epidemic, and since the conferred immunity is of short duration, not where it is endemic.

6143. *Rossoni on Hysterical Anuria.*—Rossoni has made the following experiments in two cases of hysterical anuria. When the anuria had lasted several days he gave urea, which was followed by violent symptoms of poisoning. To one patient he gave twelve grammes of pure urea in twelve doses; one every half hour. After twenty-four hours the patient lost consciousness, the pupils were dilated, and there were frequent contractions of the muscles of the face and strong contractions of the muscles of the extremities; respiration was irregular, the pulse hard and frequent, the face and mucous membrane were pale and cyanotic, temperature 35°·2 C. (100°·75 F.). A true comatose state was produced, which lasted ten hours, and was succeeded by quiet delirium. This state was relieved by the injection of pilocarpine. In both cases the periods of anuria were interrupted by the use of pilocarpine, which produced not only much sweating and great flow of saliva, but also a considerable quantity of urine. In both patients vomiting was abundant, and the matter rejected contained the constituents of urine, urea, and creatinin.

G. D'Arcy Adams, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

6144. Savage.—The Use of Sedatives in Insanity. (*Practitioner*, September 1886, p. 181.)

6145. Locke.—The Diuretic Action of Mercury. (*Practitioner*, September 1886.)

6146. Parker.—Quinine in the Treatment of Whooping-cough. (*Philadelphia Med. Times*, June 1886.)

6147. Von Ruck.—Arsenic in the Treatment of Arthritis Deformans. (*Therapeutic Gazette*, April 1886.)

6148. Illingworth.—Iron in Enteric Fever. (*Lancet*, September 1886, p. 567.)

6149. Illingworth.—Iron in Treatment of Whooping-cough. (*Brit. Med. Jour.*, September 1886, p. 450.)

6150. Strahan.—An Unrecorded Danger from continued Large Doses of Iron. (*Brit. Med. Jour.*, September 1886, p. 545.)

6151. Souchow, Dr.—On the Elimination of Mercury after Subcutaneous Injections. (*Bull. Gén. de Thérap.*, Sept. 30, 1886.)

6152. Geneuil, Dr.—On the Analgesic Properties of Solanine. (*Bull. Gén. de Thérap.*, Sept. 30, 1886.)

6153. Capdeville, Dr. Charles.—On the Physiological Action of Piligan and Piliganine. (*Bull. Gén. de Thérap.*, Aug. 30, 1886.)

6154. The Alkaloids of Jaborandi-Leaves. (*Therapeutic Gazette*, Sept. 15, 1886.)

6155. Clarence, Dr.—Anderjva, a so-called Specific for Dysentery. (*Therapeutic Gazette*, Sept. 15, 1886.)

6156. Wagner, Dr.—On Anæsthesia produced by Cucaine aided by Electricity. (*Wiener Med. Blätter*, No. 6, 1886.)

6157. Letzel.—On Oil of Sandal-wood. General remarks; purity; tests. (*Allg. Med. Centralb.-Zeitung*, Nos. 76 and 78, 1886.)

6158. Lanolin as an Ointment-Basis. (*Allgem. Wiener Med. Zeitung.*)

6159. Lanolin Mercurial Ointment.

6160. Graselli, G.—Iodide of Silver in the Nascent State in the Treatment of Conjunctival Catarrhs. (*Gazz. Med. Ital. Lombard.*, Aug. 14, 1886.)

6161. Lucio.—A Case of Acute Endocarditis with Vegetations on the Four Valvular Orifices of the Heart. (*Gazz. delle Cliniche*, July 6, 1886.)

6162. **Escorihuela, M.**—Hemeralopia Cured in Four Days by the Vapour of Calves' Liver. (*El Genio Medico-Quirurgico*, Sept. 22, 1886.)

6163. **Serret, R.**—Naphthalin in Diseases of the Urinary Organs. (*El Genio Med.-Quirurg.*, Oct. 7, 1886.)

6164. **Valcourt.**—Treatment of Scrofulous Diseases by Sea-bathing.

6165. **Moutard-Martin.**—On Tolerance of Opium.

Art. 6144. *Savage on the Use of Sedatives in Insanity.*—In the *Practitioner*, September 1886, p. 181, Dr. Savage contributes a most valuable paper on the use of sedatives in insanity. The old practice of restraint by means of chain, cord, or whip was most barbarous, and the practice of producing quiet by means of narcotics is most strongly condemned. The principle of controlling patients by means of drugs will continue to be used by general practitioners until the public overcome their prejudice against asylum treatment. In nearly every case the history is the same. Sleeplessness and depression are tried to be overcome by opiates, or it is attempted to subdue violence and restlessness by narcotics. Something must be done if the patient be treated at home, and it is on this account that the author enters upon the subject of drugs in insanity, giving his experiences when they may do good and when they are harmful. At the Bethlehem Hospital such drugs as the bromides, morphine, chloral, and opium are seldom if ever used. In studying the treatment of mental disorders by means of sedatives, it must be remembered that two very opposite conditions give rise to mental disturbances: in one the brain is the chief cause of the disorder, in many cases the evil being organic decay of this organ; in other cases the mental disorder is functional, and may be due to bodily disease reacting on the mental processes, or to perversion of the senses and allied disorders of intellectual processes. In cases of brain decay you must be careful not to begin with large doses; in functional disorders you must sometimes not be afraid to give large doses, for in functional disorders of the mind profound impressions produced by therapeutical or accidental circumstances may effect wonders. In these cases the old term 'alterative' has some meaning. In some functional cases, a whitlow, or a toothache, a severe attack of diarrhœa, or sickness, may cause relief, and in the same way a blister or a seton, an emetic, or a powerful sedative, may effect a similar result. The author does not believe in treating the symptoms of insanity as if they each had a definite meaning. Sleeplessness may as often be removed by a stimulant as by a narcotic. Bromide of potassium is supposed to be the strongest remedy we have for nervous excitement, and in some cases of restless excitement it is very useful, if given in doses of twenty grains three or four times a day; it is most useful in young cases belonging to nervous families, especially those who complain of vague uneasy feelings in the head. In cases of sexual perversion of one kind or another, bromide is very useful. In young men and women, with a tendency to commit suicide or be violent, a dose of from twenty to forty grains at bedtime has good effect. Any tendency to epilepsy is often treated by bromides, but here frequently the number of fits are reduced at the expense of harm to the mind. Bromide is generally given in combination with chloral, and the author's experience is that they do no good. In the sleeplessness of the early stage of puerperal insanity it is well to try them, and they may tide over a dangerous time; but if rest be obtained at the expense of appetite for food, more harm than good is done. Dr. Savage lays down this law: if sufficient food be taken, bromide or bromide and chloral may be pushed in cases of mental excitement. Objection is taken to chloral because it soon disturbs digestion; but in cases of acute delirious mania, if given with abundance of food and stimulants, it will save many from death.

6145. *Locke on the Diuretic Action of Mercury.*—In the *Practitioner*, September 1886, an article is contributed by Spiller Locke on the diuretic action of mercury. It has long been known that the action of digitalis and squills as diuretics is greatly assisted by the addition of a little mercury, and lately calomel alone has been lauded as a diuretic. The clue as to the diuretic action of mercury seems to be explained by the connection between bile-secretion and the formation of urea, lately demonstrated by Noël-Paton. This observer has noticed that uniformly a direct relation can be traced between the activity of a drug as a hepatic stimulant, and its activity in causing an increased formation and excretion of the most important nitrogenous waste-products. The administration of perchloride of mercury to a dog in a state of nitrogenous equilibrium causes a marked increase in the amounts of urea, uric acid, and water excreted. Drugs which cause an increased formation of bile also cause an increased formation of urea: this fact gives new ground for the belief that the liver is the great seat for the formation of urea. Mercuric salts cause a greatly increased secretion of bile, as well as of urea, besides causing a destruction of red blood-corpuscles according to Noël-Paton. It is well known that an increased quantity of urea in the blood acts as a powerful diuretic, and the good effects derived from the use of mercury in combination with digitalis and squills are readily explained by its action on some metabolic process—one outcome of which is the secretion of bile, and another the formation of urea. Rutherford has shown that calomel does not cause increased secretion of bile, and that mercuric salts only had a diuretic action; consequently in those cases in which calomel has produced diuresis, there must either have been some trace of the per-salt present, or the calomel has been transformed in the alimentary canal into the per-salt.

6146. *Parker on Quinine in the Treatment of Whooping-cough.*—In the *Philadelphia Med. Times*, June 1886, Dr. Parker states that the treatment of whooping-cough with quinine is superior to any other. Every two hours a teaspoonful of solution of quinine should be given, the strength varying from two up to ten grains in the ounce; the patient at the same time should be exposed as much as possible to the open air, and particular attention should be paid to the food, clothing, and general hygienic surroundings. The drug seems to act as a sedative to the inflamed mucous membrane, and it has absolutely no injurious effects. (Vide *Medical Digest* and Appendix, 715 : 4.)

6147. *Von Ruck on Arsenic in the Treatment of Arthritis Deformans.*—In the *Therapeutic Gazette*, April 1886, Dr. Von Ruck describes two cases of arthritis deformans in which the symptoms were controlled during the exhibition of Fowler's solution. Four minims of the liquor given after meals, and continued for many months, produces marked benefit. The author believes in the theory that the disease is due to some disturbance of the nervous system, and considers the benefit derived from arsenic is owing to its action upon the nerves and nerve-centres.

6148. *Illingworth on Iron in Enteric Fever.*—In the *Lancet*, September 1886, p. 567, Dr. Illingworth states that he finds great benefit from the use of iron in cases of enteric fever. The perchloride is given, sweetened with glycerine, in doses of five minims every two hours. The diet should be strictly limited to milk. In cases of septicæmia the author has also found much value in administering iron. [In 1867 Dr. Russell Reynolds treated cases of typhoid in his wards with thirty-minim doses of the tincture of the perchloride of iron administered every four hours.—Vide *Medical Digest*, sect. 1504: 6.—*Rep.*]

6149. *Illingworth on Iron in the Treatment of Whooping-cough.*—In the *Brit. Med. Jour.*, September 1886, p. 450, Dr. Illingworth states that iron is a 'specific' for whooping-cough. The author prescribes iron in conjunction with carbolic acid in the following manner: From one-half to one minim of the perchloride of iron, mixed with the same quantity of carbolic acid, is given every two, three, or four hours. In many slight cases the carbolic acid alone will cure the disease; but when the blood has become almost free from fibrin and hæmoglobin, and there is general loss of nutritive power, nothing produces so much good as the administration of iron. If a sedative is needed at night, three or four grains of chloral in syrup will be found useful (*vide* Sankey, sect. 716: 5, *Medical Digest Appendix*).—*Rep.*

6150. *Strahan on an Unrecorded Danger from Continued Large Doses of Iron.*—In the *Brit. Med. Jour.*, September 1886, p. 545, Dr. Strahan states that large doses of iron, if continued more than a week or two, without giving a good aperient, cause a gastro-intestinal catarrh. The mucus thus produced forms a concretion with the iron and causes an obstruction which may become serious. The preparations of iron which have been found to commonly produce obstruction are: Ringer's pill of 5 grains of the dried sulphate of iron; half-drachm and whole-drachm doses of the tincture; mixtura ferri co. P.B., made so strong as to contain 8 or 10 grains of sulphate of iron in each dose. Any of these, if given two or three times a day for a week or more, will cause severe colic and constipation unless a natural or artificial diarrhœa is produced to carry off the quantities of insoluble sulphide formed.

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6151. *Souchow on the Elimination of Mercury after Subcutaneous Injections.*—A new means is suggested for determining the presence of mercury in the urine. Urine mixed with a saturated solution of manganate of potassium and hydrochloric acid, is heated to complete decolorisation. It is then filtered in a funnel, the apex of which is connected by means of an India-rubber tube to a capillary tube containing a spiral of amalgamated copper wire. As the liquid passes slowly along the tube, the mercury is deposited on the wire, and when the process is complete the mercury is converted into biniodide by heating with iodine in a glass tube, a red ring of the salt forming on the sides of the tubes. This process, invented by Dr. Witz, and the details of which have not yet been published, is said to allow of the detection of one milligramme of mercury in 20,000 grammes of water (one part in twenty millions). Armed with this, Dr. Souchow found that the elimination begins soon after the first injection of any preparation of mercury (with the exception of the biniodide, the elimination of which, injected in a $\frac{1}{100}$ solution, only commenced after the tenth injection). The quantity excreted increases *pari passu* with the amount injected, but the proportion varies according to the particular preparation employed. The metal is still to be detected in the urine for about a fortnight after suspension of treatment, and then disappears. When stomatitis had been set up, the quantity of mercury in the urine was increased. None was found in the urine on the third day after the injection of $\frac{1}{8}$ grain of *hydrargyri formamidati.*

6152. *Geneuil on the Analgesic Properties of Solanine.*—Solanine belongs to the class of poisons which includes eserine, pilocarpine, atropine, &c., the first physiological effect being to paralyse the nerve terminals of the non-striated muscular fibres. There are, however, certain differences in the particular action of solanine which Dr. Geneuil proposes to utilise in medicine. The alkaloid may be prepared from the fresh seed of potato by means of boiling water slightly acidulated with sulphuric acid; ammonia is added to the hot decoction, precipitating solanine and phosphate of lime. The alkaloid is then dissolved out with alcohol and evaporated to crystallisation. These crystals are insoluble in water, but slightly soluble in ether, readily so in hot alcohol. It is coloured orange by strong sulphuric acid, turning to deep violet and brown. With acids salts are formed. The hydrochlorate of solanine is obtained by dissolving solanine in alcohol, to which hydrochloric acid has been added, and precipitating the salt with ether. It forms a gelatinous body readily soluble in water. In doses of from 1 to 3 grains its action is confined to the medulla and cord, but in larger doses the cerebral cortex is also affected, the symptoms being vertigo, heaviness, and noises in the ears. In poisonous doses there is violent headache, followed by delirium, cyanosis, and somnolence. Respiration is rendered deeper and slower, the pulse is not affected by the drug in medicinal doses. Its administration by the mouth in large doses is apt to give rise to nausea and vomiting with a desire to defæcate. In the stomach solanine is transformed into solanidine and glucose. Generally speaking, the pupil is not dilated. Dr. Geneuil has found solanine of the greatest service in the treatment of sciatica and rheumatic neuralgia in doses of from 3 to 4 grains daily by the mouth or hypodermically. He has also used it in prurigo, cystitis, and in certain nervous affections where restlessness and insomnia were prominent symptoms. He has found it useful in acute dyspepsia and gastritis, lessening the pain and spasm, and good results have followed its administration in the obstinate vomiting of pregnancy. He recommends it strongly in the treatment of bronchitis, bronchial asthma, cardiac asthma, and emphysema. Solanine, he says, may be prescribed without danger in large doses, and its use is not attended by the same inconveniences as morphine and atropine. It is particularly in lieu of the former that he finds it of service, especially in children.

6153. *Capdeville on the Physiological Action of Piligan and Piliganine.*—The plant known in Brazil by the name of piligan is the *Lycopodium saururus*, N.O. Lycopodiaceæ. It resembles the *Lycopodium selago* of our own country. The plant is used by the natives on account of its emeto-cathartic properties.

Dr. Bardet first succeeded in separating a resin and an active principle presenting all the characteristics of an alkali, from which is produced the hydrochlorate of piligan, the salt used in the experiments. About ·01 part per 1,000 can be obtained from the plant. Fifty centigrammes of an aqueous extract administered to a dog produced vomiting, but 10 centigrammes taken by a patient had no effect. Thirty centigrammes caused vomiting in some patients, and doses of 40 to 50 centigrammes gave rise to very violent emesis followed by violent headache, vertigo, and extreme depression. The alcoholic extract is simply purgative, and the toxic effects of the aqueous preparation were found to be due to piliganine, a drug which proved rapidly fatal to dogs and rabbits in doses of from 10 to 20 centigrammes. Its action is principally on the nervous system, particularly the medulla and cord.

6154. *The Alkaloids of Jaborandi-Leaves.*—Professor Harnack, of Halle, and H. Meyer, in some previous publication (*Annalen der Chemie*, vol. cciv., p. 67), pointed out that pilocarpine could easily be changed into jaborine, a substance acting like atropine, and Merck even claimed that jaborine was always present in minute quantities in the commercial pilocarpine. And still another alkaloid besides pilocarpine and jaborine has recently been obtained by Meyer, which he termed pilocarpidine, and described in the *Archiv für experimentelle Pathologie*, 1886, vol. xx., Nos. 5 and 6. Omitting the chemical properties of the new alkaloid, which approximate those of pilocarpine closely, a writer in the *Therapeutic Gazette* briefly reviews its principal physiological features as follows. The action of pilocarpidine is essentially identical with that of pilocarpine, only less pronounced. In a cat seven weeks old which received 0·01 gramme of pilocarpidine hypodermically the drug induced a state of intoxication, which would have been fatal unless speedily counteracted by atropine. Among the more prominent symptoms of the poisoning by pilocarpidine, Meyer mentions increased perspiration and lacrymation, besides diarrhœa, vomiting, and dyspnœa. In rabbits pilocarpidine causes likewise salivation and diarrhœa, but does not, even in doses of 0·2 gramme (3 grains), susceptibly influence the respiratory and cardiac functions. While 0·1 gramme of pilocarpine (1½ grains) produces in a rabbit a profound intoxication and death, Meyer observed, after the subcutaneous employment of 0·5 gramme (7 grains) of pilocarpidine, no materially morbid symptoms; even 0·3 gramme (4½ grains) introduced directly into the circulation caused no intoxication. It is probable that the innocuousness of the drug results from its rapid decomposition in the animal organism. In frogs pilocarpidine showed likewise a much weaker action than pilocarpine. Jaboridine (an alkaloid into which pilocarpidine is easily changed) has hitherto, by Meyer, been tested exclusively on the frog's heart, and was found to closely resemble in its physiological properties those of jaborine and atropine, as intimated above.

6155. *Clarence on Anderjva.*—For many years in the island of Mauritius a remedy has been known, under the name of *mauvis*, which has enjoyed the reputation of being a specific for dysentery. Dr. Clarence recently found that the active ingrediênt of this remedy is the *Anderjves*, or anderjva plant, a native of that island. A pound of the dried anderjva plant is reduced to a fine powder, and twenty teaspoonfuls of this powder are mixed with a tablespoonful of roasted powder and one of arrowroot. The mixed powder is divided into ten parts, one of which is taken daily as an infusion. The *anderjva* is the seed of a member of a group of aposcinaceæ of the species *Hollarrhena*, and is known as the *hollarrhena antidysenterico* described by Waring in the Pharmacopœia of India in 1868, p. 137. Its bark has been previously imported into Europe, and was known under the names *cadoga pala*, or tellicherry bark. Its seeds have from time immemorial been regarded as tonic, antifebrile, and, above all, antidysenteric. Unfortunately this plant has been confounded with other species, and has consequently fallen into discredit.

6156. *Wagner on Anæsthesia produced by Cucaine aided by Electricity.*—Wagner uses the so-called cataphoric property of the galvanic current, which enables him to render the skin anæsthetic over any given area, provided the epidermis is intact. This action depends upon the power of the galvanic current to direct liquids contained in a porous receptacle from the anode to the cathode. The living tissue represents such a receptacle, and the quantity of liquid moved in a certain space of time is the greater the stronger the current and the poorer the conducting quality of the liquid medium. He applies a flat electrode, enveloped in leather or flannel, and saturated with a solution of cucaine. This electrode is made the anode of a galvanic current of medium strength. After a few minutes the surface of skin covered by the electrode will be found to be completely anæsthetised. The larger the area to be anæsthetised the stronger must be the current. Wagner uses a circular anode electrode of 2½ centimètres, with a 5 per cent. solution of cucaine and a current of 6 milliampères, for from four to five minutes. The effect is found to be augmented by the use of an Esmarch's bandage after the application.

Alfred S. Gubb.

6157. *Letzel on Oil of Sandal-wood.*—Dr. Letzel treated ninety-seven cases of blennorrhagia with sandal-wood oil during the last year. An emulsion of the oil not being tolerated by the stomach at all, it was given in gelatine capsules, each containing 0·3 grammes (about 5 minims) of the oil. Two or even three such capsules were given thrice daily. Slight gastric disturbance was a common result, but severe gastro-enteric symptoms were observed in only four of the whole number treated; in two there was severe diarrhœa. One symptom, present only in five cases, was the occurrence of severe pains in the region of the kidneys (due to congestion), and in two of these five cases the pains were so sharp as to require morphia hypodermically. Louis Jullien, in his *Traité practique des maladies venériennes* (second edition, Paris, 1886), speaks of this pain as a symptom often observed half-an-hour or so after a dose of this drug. Jullien saw also one severe case of urticaria after oil of sandal-wood. The capsules used by Dr. Letzel were Grimault's, of Paris ('capsules de l'essence de Santal'), also those of Paulcke (of Leipzig), cheaper, but pure nevertheless. The purity of the oil used is an important consideration. Mr. Milton, in his work *On the Pathology and Treatment of Gonorrhœa*, fifth edition, London, 1883, points out that the startling differences of opinion as to the efficacy of sandal-wood oil are in all probability due to the fact that it is extensively adulterated, owing to its high price, with copaiba balsam and castor-oil, to such an extent that the commercial article as a rule contains only a small percentage of the genuine oil. Dr. Hager, in the supplementary volume to his *Handbuch der pharmaceut. Praxis*, Berlin, 1883, gives the following tests :—Genuine (East Indies) oil of sandal-wood, of 0·980 specific gravity, requires for turbidity the addition of four or five times its volume of diluted alcohol of specific gravity 0·889, the oil being previously mixed with twice its volume of absolute alcohol of specific gravity 0·799. Dragendorff's test is simpler—viz., one part of bromine dissolved in twenty parts of chloroform. Ten or fifteen drops of this test are mixed with one drop of sandal-wood oil; the resulting colour should be a violet-brown, passing into dark-blue. The pure oil is a transparent yellowish fluid without any brown colour, like pure fresh almond-oil in appearance; it has a slight odour of copaiba balsam, and it is very acrid on the tongue. *Therapeutic results.*—1. Given daily at the commencement of gonorrhœa (30 to 45 minims daily), it rapidly lessens the secretion, and changes its greenish tint to a mere milky turbidity; the pains also disappear. This result followed in 37 out of 42 cases. 2. If the medicine be discontinued aften ten or twelve days, the disease usually resumes its original intensity. 3. The best results were obtained when the oil was commenced in the third or fourth week, together with the use of weak astringent injections (zinci acet. et zinci sulphocarbol. āā 0·3 or 0·45 per cent., resorcin 2½ or 3 per cent.). In 21 cases out of 29 the secretion ceased in from eight to twelve days. 4. Sandal-wood oil is also very useful in cystitis and gonorrhœal prostatitis. 5. Cases of gleet were not materially affected by this drug, when used alone, but it was found useful in conjunction with stimulant local treatment. Finally, sandal-wood oil is of good service in gonorrhœa; it modifies the secretion much more promptly and surely than the usual balsams; meanwhile the stomach does not tolerate it so well as some authors assume; moreover, congestion of the kidneys must be guarded against; lastly, it has one great fault, its expensiveness.

6158. *Lanolin as an Ointment-Basis.*—The following by Professor H. Widerhofer, is reprinted from the *Allgem. Wiener Med. Zeitung* :—'The eczema which you see about the elbow-joint of this little child will be thus treated. It will be rubbed with soap and wet flannel till a lather is produced, then wiped dry, and then will be wrapped round night and morning with linen thickly smeared with lanolin, to which 5 per cent. of bismuth subnitrate has been added. Lanolin-salve is a most excellent remedy for eczema in young children, for it is readily tolerated by the skin on account of its forming very heavy fatty acids, whereas other fats (and vaselin) form very light fatty acids on coming in contact with the skin, and in children the skin is very sensitive to fatty acids.'

6159. *Lanolin Mercurial Ointment.*—Dr. Bernard Brandis of Aachen, in his work, 'Principles of the Treatment of Syphilis,' writes as follows :—'I must also mention the mercurial ointment brought forward by Professor O. Liebreich, of which lanolin forms the basis. It is thus prepared :—100 parts of mercury, 25 of lanolin, and 5 of (grey) mercury-ointment are rubbed together thoroughly till all the mercury disappears, which very quickly happens, and then mixed with 50 parts of mutton-suet, to which, in the melted condition, 175 parts of lanolin have been previously added. An elegant and smooth preparation results, without any disagreeable odour, and the trials of it here mentioned speak most emphatically in its favour. Those who use it upon patients boast of the ease with which it is "rubbed dry," and we may presume that the mercury is rapidly taken up by the skin.'

E. J. EDWARDES, M.D.

6160. *Graselli on Iodide of Silver in the Nascent State in the Treatment of Conjunctival Catarrhs.*—Warlomont, Rosmini, and other authorities have recently pointed out how useful this treatment is. Graselli says that in acute conjunctival catarrh its good effect is more prompt than that of any other remedy. It may be used with impunity even in those cases in which collateral irritative phenomena, such as palpebral œdema, conjunctival chemosis, and multiple conjunctival ecchymosis, &c., are present. It is less painful than solutions of nitrate of silver of ½ to ⅓ per cent., and it need only be applied once a day. It is most useful in slow subacute catarrh, and quickly subdues the acute symptoms of granular conjunctivitis. He does not agree with Warlomont that it is useful in purulent ophthalmia. The following is Warlomont's formula: nitrate of silver, grammes 3·56, dissolved in distilled water, grammes 3·50, and glycerine, grammes 6·50; filter, and keep in a green bottle. Iodide of potassium, grammes 3·32, dissolved in distilled water, grammes 3·50, glycerine, grammes 6·50; keep in a white bottle. For use the solutions are mixed in a watch-glass, 2 drops of the silver solution to 3 of the iodide. The yellow precipitate is stirred up with a brush; and then, the lids being turned back, the palpebral conjunctiva is painted with the solution. The lids are not to be turned back too quickly, or the remedy would be too soon eliminated from the conjunctival sac.

6161. *Lucio on a Case of Acute Endocarditis with Vegetations on the Four Valvular Orifices of the Heart.*—Acute valvular endocarditis of the right heart in adults has always been considered extremely rare; but observations published by Concato, Colomiotti, Bozzolo, and Cattani show that the lesion may be met with limited to the right side. Cattani has collected fifty-two cases in which the orifice of the pulmonary artery was the part affected. According to Ollendorf, Bamberger in 230 cases of valvular disease only twice found the lesion limited to the tricuspid orifice. Armerad in 272 cases found the alteration limited to the right heart in twenty-three cases. Lucio describes a case of polyarticular rheumatism in a woman. After death the heart was found normal in position. A certain quantity of citrine fluid in the pericardium. Visceral and parietal pericardium opaque. Volume and form of the heart normal. Orifice of the tricuspid 11 centimètres. Near the free margin of the valve were found numerous papillary vegetations, dispersed in irregular groups on the segments of the valve. Nothing abnormal in the right auricle or intra-auricular septum. Pulmonary orifice 7 centimètres in circumference. Similar vegetations on the valve. Aortic orifice 6 centimètres long. Abundant vegetations. Marked stenosis of the mitral orifice, with numerous vegetations. The vegetations were composed of young connective tissue. No micro-organisms could be found in the tissue of the new formations.

6162. *Escorihuela on Hemeralopia Cured in Four Days by the Vapour of Calves' Liver.*—Twenty-six years ago Dr. Escorihuela contributed his first paper on this rare neurosis to the *Genio Medico-Quirurgico* and pointed out its 'simple and prompt cure.' Since that date he says that he has had many cases, twenty or thirty, and that they have all yielded to the same remedy, however inexplicable it may seem. He gives the case of a child, 12 years of age, who for six months had been quite unable to see after dusk. Various remedies had been tried by several distinguished specialists, but without success. Dr. Escorihuela told her to buy six or seven slices of calves' liver (the liver of a sheep, goat, or ox would do equally well), to place them on some live coals, over which she was to hold her head for eight or ten minutes, and so to receive the fumes on the eyes and lids. This she was to do twice a day for three or four days consecutively. On the fourth day the child was brought to him perfectly cured. Dr. Escorihuela can offer no explanation of the success of this treatment, but vouches for the fact. In the *Genio Medico-Qnirurgico* of Oct. 7 Dr. N. Tegeco del Cerro writes confirming the value of Escorihuela's curious treatment of hemeralopia, and giving four cases of his own in which the patients were cured by simply eating roasted liver. He first heard of this cure from a shepherd, and the belief in it seems common in Spain.

6163. *Serret on Naphthalin in Diseases of the Urinary Organs.*—Naphthalin has been much given to disinfect the stools, and it has been noticed that while patients are taking it the decomposition of the urine is much retarded. In doses of 1·50 grammes in pyelonephritis, cystitis, chronic prostatitis with retention of urine, old strictures with multiple fistula, &c., naphthalin causes rapid disappearance of the decomposition of the urine, which becomes limpid, neutral, or acid in reaction, while the quantity of the pus diminishes or disappears. It is best given by the mouth; injections and suppositories have given no result. G. D'ARCY ADAMS, M.D.

6164. *Valcourt on treatment of Scrofulous Diseases by Sea-bathing.*—In a paper read by M. de Valcourt, of Cannes, before the Medical Congress at Nancy, on the efficacy of sea-bathing in scrofulous diseases, it was stated that bathing in the north of France was attended by many disadvantages, owing to the variation of the tide, and the cold and fogs, which rendered bathing impracticable during the greater part of the year. In the south, and at Cannes particularly, those disadvantages did not exist. The tide there was not affected by currents, and the waves were not large enough to prevent bathing. The temperature was always sufficiently high to allow of baths being taken in the sea. Children suffering from coxalgia, scoliosis, and other diseases of the bones, were sent to Cannes every year with advantage. Those patients who could not bathe in the sea took warm sea-water baths. In order to enable the children of the poor to avail themselves of this treatment, M. J. Dolfus founded a maritime hospital at Cannes in 1881, and the results have been remarkably satisfactory. The season begins on Oct. 1, and ends on June 1. Though the windows were kept open all day, no cases of bronchitis occurred.

6165. *Moutard-Martin on Tolerance of Opium.*—At a meeting of the Société Médicale des Hôpitaux, M. Moutard-Martin mentioned the case of a patient, aged 50, suffering from tuberculosis, to whom he had given 45 centigrammes (7 grains) of opium in progressive doses, without producing poisoning, contraction of the pupil, constipation, or dryness of the tongue. M. Rendu, who attended the meeting, suggested the advisability of giving the best quality of extract of thebaine, in progressive doses, to the same patient; by that means it would easily be proved whether the man's tolerance of opium was not owing to the poor quality of thebaine dispensed in hospitals. Other cases were quoted at the same meeting by M.M. Desnos and Sevestre of patients who had taken 2 grammes (30 grains) of morphine daily. In conclusion, M. Martin said that what appeared strange in the case of his patient was the fact of his being able to take the rapidly increased doses, from 20 to 45 centigrammes, in the course of five days. W. VIGNAL.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

RECENT PAPERS.

6166. SANTI BIVONA, DR.—On Catalepsy caused by Corrosive Sublimate Poisoning. (*Gazzetta degli Ospitali*, March 1886.)

6167. KRISSINSKY.—On Poisoning by Preparations of Silver. (*Bull. Gén. de Thérap.*, Sept. 30, 1886.)

6168. VASILIEFF, P. J.—A Case of Poisoning by Solutio Arsenicalis Fowleri. (*Proceedings of the Kaluga Medical Society*, Jan. 19, 1885, p. 3.)

6169. ZAMBELLI AND LUZZATTO.—Oxygenated Water as a Means of Separating Antimony from Arsenic in Toxicological Researches. (*Annali di Chim. e di Farmacologia*, April 1886.)

6170. MARTIN.—A Case of Chloroform Poisoning: Recovery. (*Brit. Med. Jour.*, July, p. 16.)

ART. 6166. *Santi Bivona on Catalepsy caused by Corrosive Sublimate Poisoning.*—The patient, a young woman, 24 years of age, following a violent emotion aborted at the third month of her pregnancy. Two days later she had a rigor, and the lochia (abundant at first) became scanty and fœtid. She was ordered irrigations containing $\frac{1}{2000}$ of corrosive sublimate. Instead of calling in the nurse to give the injection, the patient's sister took upon herself to inject into the rectum one-third of a litre of the solution, containing 17 centigrammes (about 2⅓ grains) of the sublimate. In the course of a few minutes the patient was seized with an intense general tremulousness, more marked in the upper extremities; her voice became feeble, and consciousness dull. On the arrival of the doctor, who was immediately sent for, half an hour had elapsed since the injection had been administered. The patient's face was pale, and her skin cold and clammy. She was unconscious; pulse 130, small and feeble; respiration 56, shallow and irregular. The tremors had disappeared, but the tonus of the muscles was increased to such an extent that the limbs preserved the position in which they were placed, for more than a minute. Attempts to induce the patient to swallow gave rise to attacks of dyspnœa. A solution of albumen was injected into the rectum, together with hypodermic injections of tincture of musk. The skin was rubbed with hot cloths and alcohol. Notwithstanding this treatment, the breathing became more and more embarrassed, and it was found necessary to resort to artificial respiration. The pulse became imperceptible, and the face cadaveric. Death appeared imminent; but as the heart still pulsated feebly, the treatment was persisted in for upwards of three hours. The patient then began to show signs of returning life, and she recovered consciousness an hour and a half later. She was convalescent in about four days. The patient had never shown any symptoms of hysteria, and everything pointed to the sublimate as the direct cause of the attack.

6167. *Krissinsky on Poisoning by Preparations of Silver.*—Dr. Krissinsky had an opportunity of examining the organs in three cases of poisoning by silver in man, and afterwards carried out certain experiments on animals. He arrived at the following conclusions. 1. The black granulations met with in the tissues are an organic compound of silver, the nature of which is obscure. 2. The metal is first deposited in the coats of the blood-vessels, and is only found in the connective tissue later on. 3. The accumulation of the metal in the vessel walls leads to deeply-seated changes and degeneration. 4. In the liver the silver is deposited principally in the radicles of the portal vein, and in the intralobular veins, but is also found in the capillary plexuses uniting the two systems—(Huget). 5. The deposit of silver in the substance of the tissues has been observed in cases of poisoning lasting forty-eight hours, but it did not then show the characteristic dark colour, and only acquires this when acted upon by sulphuretted hydrogen. 6. The most copious deposit takes place in the cells of the medulla of bones.

Alfred S. Gubb.

6168. *Vasilieff on a Case of Poisoning by Fowler's Solution.*—Dr. P. J. Vasilieff, of Kaluga, reports (*Proceedings of the Kaluga Medical Society*, Jan. 19, 1885, p. 3) the case of a delicate woman, aged 22, who, having mistaken an arsenical mixture for a laxative infusion, swallowed about 1½ drachms of Fowler's solution (about 6 centigrammes of the arsenic salt) on an empty stomach. When seen by the author five minutes later, the woman complained of fainting, a burning sensation in the epigastrium, chilling and nausea; the pulse was frequent and small, the limbs cold; there soon appeared vomiting and incessant startling. The treatment consisted in at once giving milk with whites of eggs, and, ten minutes later, in administering two ounces of the antidotum arsenici (diluted with four ounces of milk) after each vomiting. To secure thorough contact of the antidote with the whole wall of the organ, the author made the patient turn from side to side, and lie on her belly. After a second dose, vomiting and gastric burning ceased, and the pulse improved. Several hours later, she had three diarrhœal stools. On the next day she was well. This is the thirtieth case of arsenical poisoning treated after one and the same method (*i.e.* by giving two ounces of the antidote after each vomiting) by Dr. Vasilieff during twenty-four years' practice. He lost only one patient, a girl, aged 16, who swallowed a piece of white arsenic of the size of a pigeon's egg, and confessed it to her mother only nine hours later. She died thirteen hours after the poisoning, in spite of treatment. The other twenty-eight patients rapidly recovered. Seventeen of them simultaneously fell ill after conjointly partaking of pancakes made of buckwheat flour, with which a pound of arsenic had been accidentally mixed. The other eleven patients—all carpenters of one company—were poisoned by a fellow-workman, who had mixed a handful of arsenic with salt in a salt-box used by them in common.

V. Idelson, M.D.

6169. *Zambelli and Luzzatto on Oxygenated Water as a Means of Separating Antimony from Arsenic in Toxicological Researches.*—Recently precipitated sulphate of arsenic, exposed to the action of oxygenated water, is transformed into arsenic acid. Sulphide of antimony under identical conditions passes into the insoluble oxidised form. The mixed sulphides behave as if they were separately treated by this process. In the presence of organic substances, when the destruction of them is exactly accomplished, according to the rules of analysis, even traces of arsenic are rendered evident. The authors propose the employment of this process, especially for the research of arsenic by Marsh's method in chemico-legal inquiries, when the presence of antimony is suspected, and when time is of value, and it is desirable to avoid the intervention of nitrates and nitric acid to produce oxidisation.

G. D'Arcy Adams, M.D.

6170. *Martin on a Case of Recovery from Chloroform Poisoning.*—In the *Brit. Med. Jour.*, July 1886, p. 16, Mr. William Martin reports the case of a young man, aged 26, who was found by his father, late at night, in what was considered a fit. When seen by the author, his breath smelt very strongly of chloroform, and the father stated that there was some methylated chloroform in the house, and on looking for the bottle it was found that some had been lately used. Dr. Dale assisted in using the stomach-pump. A pint of water was thus introduced which the patient soon vomited. As he was unable to swallow, some strong coffee was then pumped into the stomach, and galvanism applied with no apparent effect. The breathing would remain stertorous for half an hour; for the next half hour the patient would breathe as if in a deep sleep; then the stertorous breathing would come on again, and so alternately for about twelve hours. After this, mustard poultices were applied to the nape of the neck and calves of the legs; slight twitchings of the facial muscle were observed, and the patient was able to swallow a little brandy and water. Next, he responded to a pinch on the arm. Soon he was able to move his arms and legs, and began to mumble. He gradually regained consciousness, but suffered from sickness and pain in the stomach for three or four days afterwards.

Richard Neale, M.D.

PHYSIOLOGY.

RECENT PAPERS.

6171. Lewachen.—The Influence of Nerves on the Secretion of Lymph.

6172. Mendelssohn.—The Axial Nervous Current.

6173. Kiener and Engel.—Action of Sulphide of Carbon on the Animal Economy.

6174. Garnier.—The Physiological Function of the Pulmonary Tissue during Exhalation.

6175. Vaulair.—Indirect Innervation of the Skin.

6176. Leone, A. B.—On Lactosuria. (*Riv. Clin. e Therap.*, and *Gazz. Med. Ital. Lombard.*, Oct. 14, 1886.)

6177. Fernandez.—A New Anti-rabies Inoculation. (*Gazz. Med. Ital. Lombard.*, Oct. 9, 1886.)

Art. 6171. *Lewachen on the Influence of Nerves on the Secretion of Lymph.*—At a recent meeting of the Academy of Sciences, Professor Serge Lewachen stated that, by means of an aspirator which ensures a constant secretion of lymph surrounding the lymphatic vessels of the external saphena, he can now prove that if under any nervous influence a certain modification in the circulation of the blood ensues, it always determines variations in the lymphatic secretion. On stimulating the vaso-motor nerves (constrictor and dilator), modification of the lymph results. These modifications are always identical, whatever nerves are stimulated. M. Lewachen considers these changes to be in direct connection with the circulation in the corresponding limb. In a further note that M. Vulpian read before the Academy, M. Lewachen stated that he had sought to ascertain if similar modifications in the circulatory system occurring under the influence of the vaso-constrictor and vaso-dilator nerves determine variations of the same intensity or a different intensity. This investigator made experiments on the tongue. It is known that vaso-constrictor fibres of the hypoglossal and vaso-dilator of the lingual nerve are sent to the tongue. On stimulating the lingual nerves, separate effects of each kind of the above fibres can be produced. M. Lewachen cut the collateral connections and ligated the lymphatic vessels separately on the corresponding side of the tongue. The following results were obtained. Cutting the hypoglossal nerve produced enlargement, and irritation of the peripheral extremity occasioned a decrease in lymphatic secretion. Section of the lingual had no constant effect; on the other hand, stimulating the nerve produced a marked acceleration in the flow of lymph, which continued after the section of the hypoglossal. If the intensity of electrical stimulus is progressively increased until the lymphatic secretion is at its maximum, the section of the hypoglossal nerve is not followed by any results; the vaso-dilator nerves have a more powerful influence on the lymphatic secretion, owing to the fact that they exercise a greater influence on the circulation of the blood than the constrictors, and have a direct influence on the walls of the blood-vessels.

6172. *Mendelssohn on the Axial Nervous Current.* At a recent meeting of the Académie des Sciences, M. Marey read the following communication from M. Mendelssohn, who has proved that the electro-motor power of the axial current of a nerve fragment increases with the length of that fragment, but not proportionally to it. If the length of the nerve is gradually shortened, it is seen that the direction of the axial current ceases after a certain limit to be comformable to the rule which the author has already mentioned—viz., that the direction of the axial nervous current is always in opposition to the direction or course of the physiological function of the nerve. The electro-motor power of the axial current increases with the surface of the transversal section of the nerve. This correlation disappears when two different nerves are compared in the same animal, or analogous nerves belonging to animals of different species. The electro-motor force of the axial current decreases with the exhaustion of the nerve which is induced by prolonged tetanisation; this exhaustion may even completely destroy the axial current. Desiccation of the nerve, and especially that of its sectional surface, rapidly lowers the electro-motor force of the axial current. All these facts show that the current possesses the same physical and physiological properties that M. Dubois Reymond has stated to exist in other nervous currents.

6173. *Kiener and Engel on the Action of Sulphide of Carbon on the Animal Economy.*—At a recent meeting of the Académie des Sciences, M. Charcot read the following communication from MM. Kiener and Engel on the action of sulphide of carbon on the animal economy. Recently, Signor Tamassia has called attention (Canstatt's, page 420, 1881) to changes of an hæmatic order, and has mentioned different symptoms of acute intoxication (dyspnœa, hæmorrhagic infarctus of the lungs) owing to asphyxia, which resulted from an alteration of blood-corpuscles. Schwalbe also stated in 1884, that he had produced melanæmia and melanosis in the different organs of rabbits, by slow intoxication. The importance of this fact with regard to the pathological physiology of malarial pigments induced MM. Kiener and Engel to satisfy themselves of the truth of the phenomena recorded. They therefore sought to ascertain whether there did not exist some connection between this pigmentation and the changes in red corpuscle described by Signor Tamassia. They made experiments upon twelve rabbits which had been intoxicated in different ways. Intoxication which was induced by strong doses, resulted both before and after the death of the animal in an alteration of red corpuscles which consisted in changes of an amœboid character. But in chronic poisoning, neither this alteration nor rapid disappearance of the corpuscle was observed. The urine never contained hæmoglobin. The malarial pigment described by Schwalbe was never present. MM. Kiener and Engel have constantly encountered (in cases of slow intoxication followed by death) accumulation in certain organs of a particular kind of pigment which was ferruginous and derived its colouring matter from the blood. Finally, the exaggerated formation of this ferruginous pigment in the spleen, marrow, portal vein, liver, &c., added to the morphological alteration of the corpuscle during acute intoxication warrants the belief that sulphide of carbon acts as an agent attacking the vitality of the red corpuscle and stimulating its physiological waste notwithstanding the absence of hæmoglobinæmia and methæmoglobinæmia.

6174. *Garnier on the Physiological Function of the Pulmonary Tissue during Exhalation.*—Wolfberg and Nussbaum have shown that the tension of carbonic acid in arterial blood is almost the same as that of the gas liberated in the pulmonary alveoli. Pulmonary exhalation of carbonic acid thus occurs under unfavourable physical conditions. M. Garnier, at a recent meeting of the Académie des Sciences, described his researches, made in order to ascertain if a chemical action does not facilitate the liberation of carbonic acid when in contact with the air contained in the pulmonary alveoli. Chemical analysis did not succeed in extracting a definite acid, but the pulmonary tissue of different animals (oxen and sheep), cut up, in cold water, furnished a fluid which, even when mixed with blood (which is alkaline), remained slightly, though distinctly, acid. Pulmonary tissue, when in a bloodless condition, was slightly acid, and this acidity was not due to carbonic acid; ultramarine, injected into the lungs of a guinea-pig, became, in time, discoloured. This discoloration could only take place in the presence of a strong acid, carbonic acid and taurine being inert. M. Garnier believed that a substance which acts as an acid existed in the pulmonary tissue, and that this acid body acted on the carbonic compounds of venous blood, and thus led to the liberation of carbonic acid.

6175. *Vaulair on Indirect Innervation of the Skin.*—At a recent meeting of the Académie des Sciences, M. Vaulair, in a note on the indirect innervation of the skin, stated that in numerous instances it had been observed that sensibility remained after some of the principal nerves had been cut. In some instances, sensibility of the peripheral nerve-end remained intact, though totally severed from its central extremity. MM. Arloing and Tripier have contended that the phenomena of recurrence and of peripheral diffusion explained the apparent paradox of the existence of sensibility in the peripheral nerve-end after section. These hypotheses, based on the excellent scientific researches of MM. Arloing and Tripier, have been accepted by all physiologists; but these investigators, believing in an intimate relation between these two phenomena, have neglected to define the part played by recurrence and by the collateral diffusion of the fibres, and have likewise passed unnoticed that the return of sensibility after its preliminary suppression occurred independently of nerve-regeneration. These special points were examined by M. Vaulair experimentally; he concluded that recurrence and collateral diffusion were two entirely independent phenomena. The latter was by far the more important, and alone assured cutaneous sensibility after severing the nerves. Exchange of nerve-force among the peripheral nerves occurred among branches of the same nerve, and also among nerves belonging to the same plexus; the collateral fibres pass through the deep tissues of the limb, and issue from the surface of the aponeuroses to enter the skin separately. Suspension of sensibility did not result from paralysis of the peripheral end, but from an inhibitory action proceeding from the point of lesion. This influence was gradually exhausted, and sensibility gradually returned. W. Vignal.

6176 *Leone on Lactosuria.*—The various kinds of sugar which are either consumed or formed in the economy—*e.g.* glucose, inosite, or lactose, may be eliminated by the urine and constitute glycosuria, inosuria, or lactosuria. Inosite, discovered by Scheerer in 1850 in the muscular substance of the heart, was found by Cloetta in albuminuric and diabetic urine, and by Strauss and Külz in normal urine. Blot, in 1855, found that the urine of puerperal, nursing, and a certain proportion of pregnant women, gave the chemical reaction of glucose. The constancy of the presence of sugar in the urine of women under these conditions led to the name of physiological glycosuria. Leone finds that lactosuria is not present before the seventh month of pregnancy, and is not constant even in the last two months; its appearance coincides with great development of the breasts, and is due to the formation of sugar by them: and, since this is not needed for lactation, it is reabsorbed and eliminated by the kidneys. In women who do not suckle their children, lactosuria is always present in the first five or six days after delivery. On the first day it is sometimes absent; on the second day it is always found, but in small quantity; on the third day it is much more—twenty to thirty grammes or more per thousand; on the fourth day the quantity is much less, and after three or four days it disappears entirely. In women who do nurse, the lactosuria is not constantly observed in the first few days after delivery; it may be found on the first day and between the third and fourth days. The quantity of lactose eliminated is small, and varies from one to three grammes per litre. When a woman ceases to nurse, lactosuria appears and lasts a few days, precisely as it does in women who do not commence to nurse after delivery. Lactosuria in women who do not suckle, and in the early days after delivery, disappears if there is rise of body temperature. This is due to the increased tissue-change during fever and the oxidation of the lactose. As lactose can only be distinguished from glucose by delicate and difficult chemical processes, the author having determined the nature of the sugar present in these cases, made use of the ordinary reagents for glucose, which serve equally well for lactose. He especially uses Rubner's process. In this extraneous substances are removed from the urine by acetate of lead, the urine is then filtered and mixed with an agent of the powdered acetate, it is brought to the boiling point, and liquid ammonia is added drop by drop. If it contains sugar of milk, the urine is first coloured an intense yellow, which quickly passes to cherry red, and a precipitate of this colour forms, and after some time crystals of a fine red are deposited on the sides of the test tube, the liquid remaining colourless. This reaction will show the presence of ·002 per cent. of sugar in the urine. The quantity of lactose present is determined by Fehling's solution, the oxide of copper precipitated by lactose corresponding to $\frac{7}{10}$ths of the red oxide precipitated by glucose.

6177. *Fernandez on a New Anti-rabies Inoculation.*—Dr. Fernandez, of Barcelona, claims to have discovered a new vaccine to preserve men and animals from the contagion of rabies. He has collected a great number of observations, showing that dogs bitten accidentally by vipers are never affected by rabies, either spontaneously or when bitten by affected animals. He has made certain direct experiments, inoculating dogs with a small quantity of the viper's poison. After inoculation the animals were ill for four or five days, with symptoms of slight fever, prostration, and more or less profound somnolence. He maintains that the animals thus operated on are protected from rabies, and that neither when inoculated with the saliva nor when bitten by affected animals do they contract the disease.

G. D'Arcy Adams, M.D.

OPHTHALMOLOGY.

RECENT PAPERS.

6178. May, Charles.—On Transplantation and Re-implantation of Eyes. (*New York Med. Record*, May 29, 1886.)

6179. Remak.—On a Hundred Cases of Diphtheritic Paralysis of the Ocular Muscles. (*Centralbl. für prakt. Augenheilk.*, June 1886.)

6180. Landesberg.—The Treatment of Sympathetic Inflammation. (*Klin. Monatsbl. für Augenheilk.*, p. 411.)

6181. Rückert.—Gonorrhœal Iritis, Conjunctivitis, and Polyarthritis. (*Klin. Monatsbl. für Augenheilk.*, September 1886.)

6182. Dempsey.—A Case of Orbital Aneurysm. (*Brit. Med. Jour.*, September 1886, p. 541.)

6183. Taylor.—Resection of the Optic and Ciliary Nerves. (*Brit. Med. Jour.*, September 1886, p. 546.)

6184. Greenway.—On the Treatment of Injuries and Inflammation of the Eyes and Eyelids. (*Brit. Med. Jour.*, September 1886, p. 545.)

6185. Blanch.—On Neuro-paralytic Keratitis in Cholera. (*Cronica Medica Valentia*, February 1886.)

6186. Shtchogoleff, Nikolai V.—On Hydrochlorate of Cucaine in Ophthalmic Operations. (*Proceedings of the Stavropol Medical Society*, No. 4, 1885, p. 4.)

6187. LARIONOFF, NIKOLAI M.—A Case of Fungus of the Conjunctiva. (*Proceedings of the Caucasian Medical Society*, No. 21, 1886, p. 685.)

ART. 6178. *May on Transplantation and Re-implantation of Eyes.*—The writer commences by quoting the five cases in which a rabbit's or dog's eye has been transplanted into the human orbit. He has not, however, obtained the later history of the only successful case—Bradford's—which shows that the eye was still living two months and twenty days after the operation (see *Brit. Med. Jour.*, p. 892), nor is the fact mentioned that in Rohmer's case the transplanted eye was subsequently removed, on account of sympathetic irritation. (An account of two more unsuccessful cases will be found in the LONDON MEDICAL RECORD for July 15, p. 309.) Dr. May gives the results of twenty-four experiments, in which he either transplanted a rabbit's eye from one animal to another, or re-implanted an excised eye in the same individual after an interval of a quarter of an hour. Considerable difficulty was experienced in the earlier cases in keeping the dressings applied; in six, this was accomplished by means of a mask of chamois leather. All these latter (one of which was a re-implantation) were successful. Of the remainder, the cornea sloughed in half, and in the others there was more or less atrophy of the globe. The muscles, in most instances, became attached by the seventh day; in a few as late as the tenth. In several, the muscular connection was demonstrated by dissection. The optic nerve was sutured, and united in every case; but the bond of union was only connective tissue, in which no nerve-elements could be seen. The distal end of the nerve became atrophied. Although the rabbit's eye is somewhat smaller than the human, it is considered the best for the purpose, as there is considerable variety in the colour of the iris, and the arrangement of the muscles is identical. The writer suggests that, by selection, rabbits with large eyes might be bred for the purpose. Dr. May considers that these results 'certainly justify repeated trials upon the eyes of man—at least the transplantation of the rabbit's globe into the human conjunctival sac, and, succeeding in this, the transplantation of one human eye into the orbit of another.'

6179. *Remak on Diphtheritic Paralysis of the Ocular Muscles.*—During the years 1883-84, diphtheria, always common in Berlin, was exceptionally rife, and this paper is founded upon a hundred consecutive cases that occurred in Hirschberg's clinic. Although the results do little more than confirm the views already generally held, still that confirmation, resting upon so large a number of cases, is invaluable. The occurrence of paralysis of the ciliary muscle, and its degree, appear to stand in no relation to the severity of the diphtheritic symptoms. In several of the cases there was to be obtained merely history of a sore-throat, which had disappeared when the patient came under observation. In ninety cases in which the interval between the first diphtheritic symptoms, and the onset of the muscular affection, was noted, it was between two and six weeks, the average interval being a little over three weeks. The majority of the patients came under observation when the paralysis of the accommodation was at its height, or had commenced to recover. In most, both the onset and recovery were gradual, but in a few it came on in the course of twenty-four hours without premonitory symptoms, and in one the recovery was rapid, the patient having been unable to read in the evening without a convex lens, and the following morning being able to read without any asthenopia. In no instance was mydriasis associated with the paralysis of the ciliary muscle, nor was the latter in any case confined to one eye. Paralysis of the soft palate was present in twenty-eight cases. There was paralysis of the sixth nerve on one or both sides in ten. Paralysis of the third nerve was only met with in one instance, and in this the sixth nerves were also affected, and there were ataxic symptoms. The patient died, and at the *post mortem* examination, together with hyperæmia and hæmorrhagic spots at the nerve-centres, there were found neuritic changes in the roots of the third, sixth, vagus, and hypoglossal nerves. The implication of the sixth nerve appears to be more common than is usually supposed. Children seldom complain of diplopia; if, however, every case of postdiphtheritic paralysis be examined with a red glass before one eye, the author believes that homonymous diplopia will be found to be very common. There was absence of knee-reflex in four cases; one was the fatal case above mentioned, the other three recovered. Vision was impaired in several of the cases, but there was no optic neuritis in any. Nagel has attributed the defect in the vision to a mild neuritis set up by the diphtheritic virus, and considered that the slight blurring of the margin of the disc met with in some cases was evidence of this. Remak, on the contrary, found no greater changes than are common in hypermetropia.

6180. *Landesberg on the Treatment of Sympathetic Inflammation.*—As bearing upon the question whether enucleation is of use when sympathetic inflammation has once commenced, Landesberg (*Klin. Monatsbl. für Augenheilk.*) reports four cases, of which the following is a brief summary. 1. F., aged 21, left eye burnt by the explosion of a petroleum lamp. First seen two weeks later, when pericorneal injection of right eye increased by efforts at accommodation; pupil sluggish, but dilating fully to atropine. Fundus and vision normal. Left eye—slight symptoms of inflammation; T. – ; no tenderness; vision good, pupil large. Was treated elsewhere for six weeks. Then in the right eye—pronounced serous irido-cyclitis, with 'keratitis punctata,' and several synechiæ. Vitreous turbid; fundus invisible; T. + ; vision = 15-100ths. Left eye—phthisis bulbi, and ciliary tenderness. Mercurial stomatitis. Enucleation of left eye, followed by improvement to vision = 15-70ths in eight days. Inflammatory symptoms diminished, and under treatment by warm fomentations and mydriatics disappeared in seven weeks. Iridectomy upwards, with good result; then treated by pilocarpine. Result, after more than six months, vision = 15-30ths and J.1. 2. M., aged 33, left eye punctured wound. First seen eighty-one days after injury. Right eye—pronounced serous irido-cyclitis, with multiple, broad synechiæ. T. – ; vision, fingers at six feet. Left eye atrophic; large cicatrix passing beyond corneal margin, to which iris and ciliary body were adherent. Various treatment without improvement. The vision sank to fingers at one foot. Enucleation followed by immediate improvement in four weeks. Vision = 15-100ths. All inflammatory symptoms much less marked. Three months later the eye was free from all irritation. T.n.; vision = 15-50ths. A few filiform opacities in vitreous. Retina very hyperæmic. Seen eleven months later, improvement still maintained. 3. F., aged 3, left eye, punctured wound. Right eye showed symptoms three weeks later. Seen three months after accident—left eye, cicatrix with anterior synechia; slight irritation, and phthisis bulbi; tenderness over ciliary region. Right eye, serous iritis; anterior chamber shallow; aqueous turbid; numerous synechiæ. T. + ; vision = 10-200ths. Oph. fundus-reflex only. Treated in dark room, but several times a further impairment of vision, always coinciding with exacerbation of inflammatory symptoms in left eye. A large iridectomy on left eye, without improvement. After two months, vision fingers at ten feet. Enucleation of left eye. Improvement noticed two days later, in three weeks pupil could be dilated to same extent as on admission. Anterior chamber clearer; vision = 5-100ths. Uninterrupted improvement, almost without treatment. Final result almost normal in all respects. 4. M., aged 14, right eye struck by corner of table; severe inflammation leading to loss of vision. Eye remained in irritable condition, with occasional exacerbations. Thirteen months after accident, slight occasional irritation in left eye, without affecting vision; six weeks later inflammation became constant, and vision suffered. First seen sixteen months after accident—right eye, leucoma with broad anterior synechia; iris adherent by surface to the lens capsule; irido-cyclitis. T. +. Left eye, slight conj. œdema; plastic iritis; exclusion of pupil; hypopyon; vision = p.l.; good projection. T.n. At first slight improvement under pilocarpine course, but not maintained. Enucleation of right eye. Next day patient stated that left eye was more comfortable than for months. Steady improvement followed. Six months after operation no trace of inflammation. Vision = 15-100ths; later, after an iridectomy, 15-40ths. Choroid showed several atrophic areas. Vitreous clear. Three years after iridectomy improvement maintained. Vision = 20-30ths.

6181. *Rückert on Gonorrhœal Iritis, Conjunctivitis, and Polyarthritis.*—In this paper the writer reports at great length, and with copious references to authorities upon the subject, a very interesting case of gonorrhœal conjunctivitis, occurring without inoculation, and complicated with irido-cyclitis, and arthritis of many joints. The patient was a man aged 29, who contracted gonorrhœa for the first time in January 1882; this was complicated with double conjunctivitis, and was soon followed by articular rheumatism. Between 1882 and 1884 there were several inflammatory attacks in the eyes of doubtful nature. In 1884 he contracted a fresh gonorrhœa, and almost simultaneously pain and swelling came on in both knees, and later iritis in the right eye. Early in 1885 a third gonorrhœa was contracted; this was complicated with conjunctivitis of both eyes, coming on two days after the urethritis; the secretion was scanty, and there was no chemosis. Arthritis appeared in several joints, and was accompanied by febrile symptoms of an intermittent type (there was enlargement of the spleen, and the patient came from a malarious district). The right eye, and later the left, attacked by irido-cyclitis, after a relapse of the urethritis which occurred without fresh infection. At the end of April another relapse of the gonorrhœa with irido-cyclitis of the right eye. Middle of June, iritis in left eye and articular pains. September, irido-cyclitis of left eye and then of right, and articular pains. January 1886, relapse of gonorrhœa, joint affection, conjunctivitis, and iridocyclitis. The specific micrococcus was found in large numbers in the urethral secretion, but not in the conjunctival secretion, although it was repeatedly looked for. W. Adams Frost.

6182. *Dempsey on a Case of Orbital Aneurysm.*—In the *Brit. Med. Jour.*, September 1886, p. 541, Dr. Dempsey records an interesting case of orbital aneurysm. A woman, aged 22, was admitted into the hospital with the left eyeball almost quite protruded from the orbit. Distinct pulsation and a vibratory thrill were communicated to the fingers placed upon the globe. A loud whizzing bruit synchronous with the cardiac systole was heard on applying the stethoscope over the orbital arch and forehead; compression of the left common carotid immediately and completely arrested this bruit. The character of the bruit was not that of an aneurysmal varix. The patient stated that she was in good health until November 1885, when she was confined of her first baby. After delivery she slept some hours, and when she awoke she heard slight noises and singing in her head, and had a headache. Next morning she was given a beefsteak, which made her vomit excessively; during a fit of vomiting she felt a sudden rush of something coming up from the left side of her neck and chest, and settling in her eye with a 'snap.' This was immediately followed by intense pain in the eye and head, and numbness of the side affected. It was noticed that the eye was swollen, and it protruded more and more every day. Two months later she found out that there was total loss of vision in the eye. In February 1886 the patient came under the care of the author. The treatment adopted was rest in bed, low diet, and the administration of iodide of potassium. At the same time digital compression of the common carotid artery was methodically kept up at intervals of a few minutes, for half-an-hour to an hour at the time, three or four times a day. One month after the commencement of this treatment she felt a sudden rush into the left ear, and deafness resulted for a few days. A loud bruit was now heard above the ear, the pain became more severe, the noises louder, and the general symptoms more alarming. It was now decided to ligature the common carotid, which was done on April 12 by Mr. Fagan. The symptoms gradually improved, and the patient was doing well until the twenty-first day after the operation, when there was a sudden gush of hæmorrhage from the wound. After much difficulty five bleeding vessels were ligatured on May 3, and though there was extreme collapse, she rallied and lived another eighteen days, when violent hæmorrhage took place through the cornea, and a few hours later on another severe gush of blood came through the wound. During the next twenty-four hours hæmorrhage occurred at intervals, and death took place about noon on May 23. On *post mortem* examination a fusiform aneurysm of the internal carotid artery was discovered on the side of the sella turcica; it commenced just at the entrance of the vessel into the cranial cavity, and extended to the anterior clinoid process where the ophthalmic artery was given off. The ophthalmic artery was considerably dilated, and on tracing it into the orbit, an immense saccular aneurysm was seen. The author adds that he does not know of any other case on record in which a large saccular aneurysm of the ophthalmic was associated with a fusiform aneurysm of the internal carotid within the cranium. As to the treatment, it was thought that digital compression had been persevered in too long. The use of digital compression prepares the brain for ligature of the carotid, but the nice point is to decide when to leave it off and perform the operation for ligature.

6183. *Taylor on Resection of the Optic and Ciliary Nerves.*—In the *Brit. Med. Jour.*, September 1886, p. 546, Dr. Charles Bell Taylor contributes a paper upon the desirability in certain cases of substituting resection of the optic and ciliary nerves for ablation of the eyeball. In cases of injury to the eyeball, where the eyesight is lost, but the eye retains its shape as an ornamental appendage, when it is merely affected by neuralgia, by attacks of recurrent inflammation, or luminous spectra, which torment the sufferer; or when it belongs to a patient who, although threatened with sympathetic ophthalmia, refuses to submit to enucleation, the best plan to adopt is to divide the optic and ciliary nerves in the following way. The conjunctiva immediately over the insertion of the internal rectus muscle is pinched up; the muscle is then drawn up with a blunt hoop, and divided close to its insertion; the eyeball is then seized with sharp-pointed forceps, and pulled well forwards, at the same time turning it inwards; the optic nerve can then be severed as far back in the orbit as possible. The globe is then turned completely round, and the stump of nerve left is shaved off close to the sclerotic. During the last six years the author has treated thirty-one cases in this way with most gratifying results. The paper concludes with the following remarks on what should be done with a lost eye. 'Enucleation is mutilating and unsatisfactory; exteneration is dangerous, and, moreover, apt to excite sympathetic ophthalmia; a glass vitreous seems likely to aggravate the evils of a foreign body by its constant presence in the orbit; and destruction of the conjunctiva is merely the expression of despair.'

6184. *Greenway on the Treatment of Injuries and Inflammation of the Eyes and Eyelids.*—In the *Brit. Med. Jour.*, September 1886, p. 545, Mr. Greenway strongly recommends the use of ice and carbolic acid in the treatment of inflammatory affections of the eyes. The mode of application is to fill a small pig's or sheep's bladder with the ice and acid solution; this can be suspended from a band passing across the patient's forehead, and encircling the head, the bladder lying in front of the affected eye. In order to prevent injurious effects by a too long application of cold, the bladder should be removed occasionally, and reapplied when returning warmth is perceptible. The acid solution is made by adding half an ounce of the glycerine of carbolic acid P. B. to a pint of water. A tablespoonful of this solution will be sufficient to place in the bladder at a time.

RICHARD NEALE, M.D.

6185. *Blanch on Neuro-paralytic Keratitis in Cholera.*—Dr. Aguilar Blanch states that cholera may provoke ocular affections, and that these are more frequently observed during the rapid comatose stage of the disease than any other; children, also adults who are feeble, are especially liable to contract them. This ocular lesion is characterised by a neuro-paralytic keratitis; both eyes are equally affected; in most cases, this form of keratitis follows the ordinary course. It begins with molecular degeneration of the outer corneal layers, which first assume a whitish colour and afterwards a yellowish tint; this degeneration has a tendency to spread superficially rather than in depth. This sphacelous condition is followed by centrifugal disintegration of the elements concerned; afterward perforation of the cornea ensues, hernia of the iris, and, lastly, total necrosis of the cornea, the eye becoming phlegmonous. Necrosis always commences in the centre of the cornea, the surrounding anatomical elements are infiltrated and necrosis spreads. This disease can be rapidly cured if properly treated at the onset. The treatment consists of very hot fomentations, bandages, applications of eserine and iodoform. Tonics should also be given.

W. VIGNAL.

6186. *Shtchogoleff on Cucaine in Ophthalmic Operations.*—Dr. Nikolai V. Shtchogoleff, of Stavropol, states (*Proceedings of the Stavropol Medical Society*, No. 4, 1885, p. 4) that he invariably obtained full local anæsthetic effects from cucaine in operations for cataract, in iridectomy, removal of pterygium, cauterisation of trachoma with sulphate of copper, &c. The instillation always produced pretty considerable hyperæmia of the parts, but, differing from other observers, the author never saw any dilatation of the pupil.

6187. *Larïonoff on Fungus of the Conjunctiva.*—At a recent meeting of the Caucasian Medical Society, Dr. Nikolaï M. Larïonoff, of the Tiflis Military Hospital, demonstrated (*Proceedings of the Caucasian Medical Society*, No. 21, 1886, p. 685) a patient, in whom, about two weeks before, there had appeared fungus of the palpebral conjunctiva, and, two or three days later, also of the tongue, buccal cavity, fauces, and urethra (near the external orifice). The general health of the man was at first quite satisfactory, but subsequently, when the oïdium albicans affected his mouth and fauces, he commenced to lose flesh, since he could not eat in consequence of painful swallowing. This is the third case of conjunctival fungus which has come under the author's observation within the last five years. Only one of the patients was in bad general health (weakened by chronic pneumonia). In all, the fungus appeared within a short time, in the buccal cavity and fauces. In one (in the weak one) it developed also on the glans penis. Dr. Larïonoff is surprised to find that none of the text-books contain any mention of the disease in question. His surprise is the more justifiable, as fungus of the conjunctiva belongs to severe ocular affections leading to cicatricial degeneration of the ophthalmic mucous membrane, with subsequent lesion of the cornea. Dr. Mikhail J. Reich, of Tiflis, has also met several cases of that rare disease in debilitated adult subjects confined in prison, and in weak children imprisoned in reformatory schools. He never saw, however, any spreading of the fungus from the conjunctiva to the mouth or urethra. V. IDELSON, M.D.

OTOLOGY.

RECENT PAPERS.

6188. VON STEIN.—Pressure on the Auditory Ossicles as a Cure for Deafness. (*Deutsche Med. Wochensch.*, No. 7, 1886.)

6189. GRAMSHAW.—Removal of Foreign Bodies from the Ear. (*Brit. Med. Jour.*, April, p. 778.)

6190. BARKER.—The Treatment of Ulcerative Otorrhœa. (*Brit. Med. Jour.*, June, p. 1213.)

6191. Dalby, Sir W. B.—On the Functions of the Membrana Tympani illustrated by Disease. (*International Journal of the Medical Sciences*, July 1886.)

Art. 6188. *Von Stein on Pressure on the Auditory Ossicles as a Cure for Deafness.*—At a meeting of the Russian Medical Society in Moscow, Dr. von Stein first alluded to the fact that in 1876 Michel, and later, Urbantschitsch, endeavoured to give mobility to a stapes, when fixed by chronic inflammation, by exercising pressure on its condyle; Michel even perforating the drum for the purpose. In 1884, Lucae published his method of operating by means of his 'spring probe,' which he described as 'a piece of steel as holder for a small hollow cone passing through the conducting tube and resting on a sensitive spiral spring fixed in the handle,' bearing a maximum pressure of 78 grammes. The cone is wound round with wadding, on which India-rubber (or, more conveniently, the ear-wax of the patient) is spread. Thus prepared, the probe is introduced in the direction of the base of the short process, parallel with the upper anterior wall of the meatus, the cushion of the cone being lightly, but promptly, pushed against the process. Then the movements of the operator, like that of stamping, are begun; at first only once or twice; then, according to circumstances, from two to ten being made. During the operation, the hand can gauge the mobility of the malleus. Dr. von Stein had in his first two cases ecchymosis of the drum as a consequence, but with no further serious complications. Lucae adopts this mechanical treatment in cases of catarrh of the middle ear, when the hearing is very much affected. Whilst none of the remedies, chemical, operative, physical (air-pressure and electricity), or medicinal, have given satisfaction in connection with sclerotic inflammation of the middle ear, Lucae's method has been fairly successful. These are the results: no effect, 14·8 per cent.; some little improvement, 29·6 per cent.; considerable improvement, 27·8 per cent.; and very great improvement, 27·8 per cent. Lucae has found a passing hyperæmia, violent pain, and a pricking feeling on the tongue to follow the operation. The frequency of the operation must depend entirely on the individuality of the patient, some bearing it often, whilst others (particularly elderly patients) suffer much from it. The following is Dr. von Stein's mode of procedure. The first time he touches the short process only quite softly, in order to cause no great pain, with a view of not alarming the patient, and of forming an estimate of the strength of the hyperæmic reaction. He does not exercise the pressure again, before all redness and pain have disappeared. Every succeeding time the pressure is increased, until gradually the full strength of the spring is used. In the mean time the air-douche may be used, unless it be found to injuriously affect the hearing. Even after the hearing has been restored to its highest pitch, the operation is continued, in order to make the effect more durable. Particular care, however, must be taken in the case of old people of an apoplectic habit. Frequently the operation seems at first to do harm, instead of good. In anæmic subjects, a passing vertigo is a common effect of the operation. In some cases the hearing improves, whilst the noises grow louder. It is advisable not to test the hearing directly after an operation. In most cases the noises diminish greatly, or even disappear altogether, after the first operation. The effect of this method has been particularly striking in some cases of long-standing deafness. The mechanical disruption of adhesions in the ossicles is not the only factor in the cure, but another important one is the hyperæmia which loosens the sclerotic connective tissue. Dr. von Stein's experience of the method has not been as favourable as Lucae's, and he thinks there is little hope of improvement being effected if the first operation be unsuccessful. John Elliot.

6189. *Gramshaw on Removal of Foreign Bodies from the Ear.*—In the *Brit. Med. Jour.*, April 1886, p. 778, Dr. Gramshaw suggests an easy mode of removing foreign bodies from the ear. All that is needed is a large syringe, holding four or six ounces, and a basin of rain-water soapsuds as hot as can be borne. With this simple apparatus, the author states he has very frequently removed bodies from the meatus, and considers the plan easier and better than that recommended by Mr. Hutchinson, where a loop of wire is used.

6190. *Barker on the Treatment of Ulcerative Otorrhœa.*—In the *Brit. Med. Jour.*, June 1886, p. 1213, Mr. A. E. Barker recommends the following method of treatment in cases of chronic discharge from the ear. The whole meatus is first thoroughly cleansed by means of little rolls of salicylic wool, wrapped round the end of a tapering probe. When this is done, the granulations will be well seen in every part, and must be freely scraped away with a sharp-edged curette and removed. The whole fundus of the ear is now cleansed and dried with small rolls of salicylic wool, and, when quite dry, is touched with wool dipped in strong tincture of perchloride of iron. This fluid should be conveyed only to the ulcerating surface, and should be limited in amount. When it has remained in contact with the diseased area for a few seconds it is dried off, and then a small quantity of iodoform is blown over the diseased part. Richard Neale, M.D.

6191. *Dalby on the Functions of the Membrana Tympani Illustrated by Disease.*—Alluding to the fact that in certain cases, in which as much as a half or even more of the membrana tympani has been invaded by calcareous deposit, the hearing had not been markedly impaired, Sir William Dalby concludes that structural changes in the tympanic membrane of a very extensive nature may exist without impaired hearing; further, that loss of continuity in the tympanic membrane does not necessarily interfere with its function, provided that the ligamentous support which it affords to the chain of ossicles be not impaired. In several cases, where the membrane has been accidentally pierced with a very sharp-pointed object—a pin—the hearing has not been found, by the most careful tests, to be injured. The damage to the hearing caused by the noise of explosions has appeared to be ultimately less when the membrane had been ruptured, than when it has not given way. Again, in surgical incisions of the membrane, hearing may be distinctly and immediately improved on an opening being made. In some cases of perforation, hearing is not much interfered with; and this is more remarkable when the perforation is of large size. The sooner perforation takes place after the supervention of inflammation, the better.

Alfred S. Gubb.

The 'Notes of an Ambulance Surgeon,' written by Sir W. Mac Cormac, has recently been translated into Japanese.

REVIEWS.

ARTICLE 6192.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., F.R.C.P. Two vols. Sixth Edition. London: Smith, Elder, & Co. 1886.

WITHIN less than two years another edition of this standard work has been called for, showing conclusively the estimation in which it is held by the profession. The bulk of the volumes remains much as in the previous editions. The work is essentially what it professes to be, 'an epitome of the science and practice of midwifery which embodies all recent advances.' The author dwells especially on the practical part of the subject, so as to make the work a useful guide in this most anxious and responsible branch of the profession. It is written in a clear and comprehensive, at the same time interesting, style, which approves itself to the student and practitioner alike. Controversial points are stated fairly, and the reasons given for preferring one method of treatment to another. 'Certain important points of practice are recommended, which not long ago would have been considered heterodox in the extreme, and which even now will not meet with general approval,' although, in the experience of practical men, who have had an opportunity of testing the advantage of the one and the other, there will be no doubt as to the advisability of following the author's suggestions. We could wish that the author's views as to the treatment of extra-uterine gestation, which fairly express the opinion of those competent to speak in such matters, and which have now been before the profession for the last ten years or more, were more often acted upon. Cases are still from time to time recorded where passive expectancy is pursued in place of active interference, without any protest. 'Hitherto all that has generally been done—in cases of rupture of tubal gestation—is to attempt to rally the patient by stimulants, and, in the unlikely event of her surviving the immediate effects of laceration, endeavouring to control the subsequent peritonitis, in the hope that the effused blood may become absorbed.' Mr. Lawson Tait and others have clearly demonstrated that it is perfectly justifiable when laceration has occurred to perform gastrotomy, to sponge away the effused blood, and to place a ligature around the lacerated tube, and remove it with its contents.

We commend specially to the consideration of the practitioner the author's remarks upon the subject of albuminuria complicating pregnancy, and the advantages of inducing premature labour in all cases in which the quantity of albumen is considerable and progressively increasing, and in which treatment has failed to lessen the amount.

Having in view the undoubted risks which attend this complication, the operation is unquestionably indicated, and is perfectly justifiable, in all cases attended with symptoms of serious gravity.

In speaking of the management of natural labour, the author inculcates the necessity of first securing efficient contraction of the uterus by manual pressure after the expulsion of the fœtus, and not relying on the binder as a means of promoting uterine contraction. He holds that the binder should never be applied until after the placenta is expelled, and not even then, unless the uterus is perfectly and permanently contracted.

In cases in which chloroform is administered during labour, and has lessened the force of the pains, ether may be given instead with great advantage. So far as the author's experience goes, it has not the property of relaxing the uterus, but, on the contrary, has sometimes seemed distinctly to intensify the pains. Of late he has used a mixture of one part of absolute alcohol, two of chloroform, and three of ether. This is less disagreeable than ether, and has not the over-relaxing effects of chloroform.

The second volume deals with the practical part of the subject, and comprises everything likely to be required by the busy practitioner. The chapters on the obstetric operations are clear and concise, the illustrations assisting materially the elucidation of the text. The possibility of effecting version by external manipulation is here duly insisted upon, but apparently finds but few advocates, judging by the absence of published cases.

The author admits that the frequency with which craniotomy has been performed in this country constitutes a great blot on British midwifery. Great efforts are now being made to direct the attention of the profession to the necessity of reducing to still narrower limits the frequency of resorting to this cruel operation. It has even been proposed to abolish it altogether from scientific midwifery, and there is little doubt but that the past experience of the Rotunda Hospital in Dublin, where craniotomy was performed three or four times as often as forceps-delivery, will not again be repeated, now that the employment of the forceps is better understood, or Porro's modification of Cæsarian section adopted.

We doubt whether the opinion expressed that 'craniotomy must be performed whenever it is practicable, and Cæsarian section only resorted to when no other means of delivery are possible' will long hold good. The tendency of modern opinion is to agree with the teaching of Radford that, even when delivery 'by craniotomy is possible, it can be justified on no principle, and is only sanctioned by the dogma of the schools, or by usage.'

The modern improvement of Porro's operation upon Cæsarian section shows that, of 170 cases, 75, or 44 per cent., were successful as regards the mother.

In speaking of the application of forceps, the advantage of directing the blade directly backwards in the concavity of the sacrum, as indicated in fig. 161, until the blade has passed some little distance, when the handle is elevated and the blade guided to the side of the pelvis, is spoken of as a somewhat complicated manœuvre. The second blade, we are told, 'is passed directly opposite to the first, and is generally more difficult to introduce.' In cases of impaction it will be found that the introduction is greatly facilitated by passing it directly backwards at first, and then depressing the handle so as to allow the blade to slide round to the right or upper side—the patient being on her left side—and not attempting to pass it directly opposite the first blade. All this may be a matter of individual experience, and we would not press it unduly, although, practically, we believe it to be of great importance in all cases where the least difficulty occurs in adjusting the blades.

The chapter upon puerperal septicæmia is a well reasoned-out essay upon so-called puerperal fever. 'The whole tendency of recent investigation is daily rendering it more and more certain that obstetricians have been led into error by the special virulence and intensity of the disease, and that they have erroneously considered it to be something special to the puerperal state, instead of recognising in it a form of septic disease practically identical with that which is familiar to surgeons under the name of pyæmia or septicæmia.'

The various theories held by different authorities are discussed at length, and many valuable hints given as to avoiding the exciting causes likely to produce this terrible scourge of the lying-in room, including exposure to sewer-gas and defective sanitary conditions.

In conclusion, we can but add that the work as a whole is a most praiseworthy production, and does credit to its well-known author. It may safely be recommended as a trustworthy guide to the science and practice of midwifery.

ARTHUR W. EDIS.

ARTICLE 6193.

On Cancerous Affections of the Skin. By G. THIN, M.D. London: J. & A. Churchill. 1886.

CANCEROUS affections of the skin form the subject of a very clear and interesting brochure by Dr. Thin, and this includes the two allied forms of epithelioma and rodent ulcer. The histology of epithelioma has been generally fully treated by authors both in England and abroad, and we do not recognise any material advance in this subject in the present treatise, but whatever Dr. Thin gives is sure to be good. It is useful to know the history of the recognition of a disease, and here we have some very clear accounts by the author, particularly useful and interesting in the case of rodent ulcer, the nature of which has been viewed differently by different writers.

With reference to epithelioma, Dr. Thin accepts the view that the epithelium of the neoplasm acts as an irritant on the adjacent vascular structures, and discards as insufficient Boll's hypothesis that epithelioma is caused by a disproportion between the vital energy of the epiblastic and mesoblastic elements. It is under two aspects that the disease must be examined histologically—the remarkable quality of invasion of the deeper tissues, and the equally remarkable quality by which it leads to inflammatory and destructive changes in the tissue. Here, as we might expect, the author gives some excellent engravings. But he opposes very decidedly the doctrine of Virchow that the epithelial elements of cancer are developed from connective-tissue cells, and adopts the more recent views of Thiersch of the origin of the growth always from pre-existing epithelium. Yet he inclines to the opinion that the wandering cells which are found among the epithelial and other structures in this disease are the source of much of the new epithelial growth. He cannot find that the cells multiply by cell-division or endogenous cell-growth of the epithelium, as has been assumed, but the wandering leucocytes being brought under the influence of epithelial cells may themselves become epithelial. The connective tissue meanwhile undergoes peculiar changes; first, an increased migration of leucocytes constituting the small cell infiltration, next the splitting up of the bundles of connective tissue and the linear arrangement of the leucocytes between these smaller bundles, and finally a disappearance of the bundles and a loss of all traces of the normal distribution of the connective-tissue elements, which are displaced by dense masses of small cells, dilated vessels, and escaped red corpuscles. Dr. Thin lays more stress, as we should have expected, upon the colloidal degeneration of occasional epithelial cells than upon the birds' nests, which are very attractive to the microscopist, but are by no means confined to this form of disease. But we do not find much light thrown upon the causation of epithelioma, and it is on this subject that we must look for advance in useful knowledge. So far early and thorough removal is the treatment when the disease has occurred, but we should be more glad if we knew how to prevent its occurrence.

It is for the clear and careful account of rodent ulcer that the work will probably be most studied, and we find here that the author's reputation will be deservedly maintained. An excellent account is first given of the history of its recognition, and this is more important than at first sight is evident. Clinically, it was, as is well known, discovered by English surgeons; pathologically, its special characters were first recognised in Germany. But Thiersch's results have been of late lost sight of, and modern writers have refused to see in rodent ulcer the peculiar form of epitheliomatous growth which he pointed out. Rodent ulcer and ordinary epithelioma have been wrongly looked upon by some recent observers and writers as clinically and pathologically one disease. Histologically, this may be accounted for by the extreme difficulty of preparing the tissue for examination, the cell-material being so readily destroyed. It is with its histology that we should expect the author more especially to deal, and here he gives what is really an abstract of his papers in the 'Pathological Transactions.' The small cells of rodent ulcer never enlarge into the flat horny cells of epithelioma, nor do they undergo the colloidal degeneration or the bird's-nest arrangement so commonly seen in that disease. Another histological peculiarity of the cells of rodent ulcer is referred to, and that is their incapacity to retain the dye of eosin. That the growth does not infiltrate the deeper structures or the connective tissue as compared with epithelioma is obvious, from its naked-eye characters; but the origin of the neoplasm still remains in obscurity, and the author confesses that his observations have been almost entirely negative. He has never been able to trace its connection with rete mucosum, or hair sheaths, or sebaceous glands; but he has observed appearances in the sweat-glands that suggest that they afford the first point of departure of the growth; and Cornil and Ranvier describe a growth under the name of tubular epithelioma apparently identical with rodent ulcer, and taking its origin in the sweat-glands.

Dr. Thin differs from Mr. Hutchinson in not limiting the disease to the upper part of the face, but he allows its extreme rarity in other situations. In the same way he considers the non-invasion of glands after a long time only makes the diagnosis of rodent ulcer a probability. The descriptions given by writers upon the authority of Mr. Hutchinson, Mr. Hulkes, and Sir James Paget are accepted in the main as the true groundwork for diagnosis. But this is by no means always so easy as would appear from reference to the classical works on the subject, while it seems to be beyond doubt that we have two distinct forms of epithelioma producing cancerous ulceration of the skin. While it appears certain that the gravity of the disease largely depends upon the particular morbid epithelium concerned in the process, and that the typical rodent ulcer can be diagnosed as such, there are cases in which the distinction is for a time impossible. Probably in the future when a more accurate knowledge is possessed of the distinguishing histological differences between these two forms, and when clinical and pathological observations are brought to bear on a considerable number of individual cases, diagnostic marks may be discovered which will enable us before excision to tell with greater certainty with what form we have to deal.

The etiology of the disease receives little or no explanation, and he rightly says that to speak of constitutional proclivity does not advance our knowledge. When a larger experience of the disease is gained, we hope that the author may be able to give some account of the geographical distribution of the disease, and the influence of climate, diet, occupation, and other causes. But we feel that a great deal is yet to be learned on the subject of relationships of morbid growths as well as other diseases—departures from the healthy tissue physiology. This subject of the natural history of disease will prove of more than passing interest. A knowledge of the evolution of disease will possibly lead to the means of devolution, and this seems the most encouraging line of research for able pathologists such as the author. W. W. WAGSTAFFE.

ARTICLE 6194.

A Manual of Urine Testing. By K. M. HEANLEY, Matron of Boston Cottage Hospital. 1886. London: H. K. Lewis, 136 Gower Street, W.C.

THE object of this little work—viz. to afford a comprehensive and easily-comprehended set of rules for the guidance of nurses, probationers, &c., who may be called upon to examine urine clinically—is most praiseworthy.

The authoress follows the plan of describing the commoner substances which are liable to spontaneous deposition from urine (sediments) first, and then passing on to the consideration of those morbid products whose presence must be sought for in the secretion by the application to it of chemical reagents and heat.

On page 19 blood-corpuscles are described as circular discs of a peculiar red colour, rendering them unmistakable; no mention, however, is made of the fact that in thin layers, as usually seen under the microscope, the corpuscles are of a pale yellow tint. The new tests for albumen and sugar, introduced by Dr. George Johnson and Dr. Oliver, of Harrogate, are duly described.

The authoress appears to think highly of the potassio-mercuric iodide as a test for albumen. No doubt, if applied by means of Dr. Oliver's papers and using the precautions recommended by him, it is both a trustworthy and a delicate test for albumen; but it cannot be too generally known that at least two substances are precipitated from non-albuminous urines by a mixture of citric acid and potassio-mercuric iodide. Thus, if citric acid be added to a clear specimen of normal urine, and the mixture be carefully watched, a slight opalescence (mucin) will be observed. If the opalescent liquid be repeatedly passed through a filter, till it is perfectly pellucid, and potassio-mercuric iodide be added to the filtrate, a second opalescence appears. The precipitate produced by the citric acid alone is unchanged by heat; but the precipitate produced by the potassio-mercuric iodide in the clear filtrate containing citric acid dissolves on heating, and is reprecipitated on cooling. Therefore, in the absence of Oliver's graduated tubes, pipettes, &c., the safest mode of testing for albumen in urine by means of potassio-mercuric iodide is to add citric acid to the urine first, then filter, and add potassio-mercuric iodide to the filtrate; any precipitate produced by this reagent which does not clear up on heating may be ascribed to the presence of albumen.

When the new and delicate tests were first proposed for albumen, much nonsense was talked about the necessity for countertesting. Now there is no single reagent which can be applied to urine with the object of detecting albumen in that secretion which is perfectly trustworthy *per se*.

All the reagents which are now in use for detecting the presence of albumen in urine are either themselves acids, or must be applied in presence of acids in order to be effective. Now all acids are liable to precipitate uric acid or acid urates when added to concentrated or gouty urines. Therefore we are never safe in testing for albumen without countertesting in the shape of the application of heat. This is as true in the case of the time-honoured nitric acid as with any of the new tests.

The new tests, however, with one exception (the ferrocyanic), precipitate other substances when present in the urine, which are not rendered insoluble by nitric acid—viz., peptones and alkaloids; and it has been objected against them all that they may cause an opalescence due to mucin. But the same countertest which disposes of urates also dissolves precipitates due to peptones and alkaloids—viz., heat; and it is a great objection to the ferrocyanic test, which is the only one of the new tests which does not precipitate peptones and alkaloids, that heat cannot be applied to solutions containing this reagent in presence of acids (in which condition alone it is effective as an albumen precipitate) without causing a flocculent precipitate due to its own decomposition, so that urates cannot be guarded against in using this test, except by microscopic examination of the precipitate.

As regards mucin, all the common mineral and vegetable acids appear to precipitate this substance, but it must be distinctly borne in mind that picric acid does not do so. Picric acid is the only one of the new reagents for albumen precipitation that is effective in the absence of any second reagent, requires no countertest except the application of heat, and never under any condition causes a precipitate undissolved by heat due to any other substance than albumen, except that in very rare cases, a slight permanent opalescence due to free uric acid may persist after boiling. Such urines would give a similar precipitate with all the albumen tests, except heat. The nature of the precipitate may be diagnosed by the microscope. When a precipitate produced by picric acid is albuminous, it is always markedly increased by heat. The slightest turbidity produced by picric-acid solution added alone to a clear urine, which remains undissolved by heat, may with perfect confidence be attributed to albumen. It is to be hoped that these remarks will not be looked upon as a species of special pleading, for they are the outcome of considerable experience and prolonged observation.

We trust that Miss Heanley's book will meet with the appreciation which it deserves.

G. STILLINGFLEET JOHNSON

ARTICLE 6195.

Therapeutics founded upon Organopathy and Antipraxy. By WILLIAM SHARP, M.D., F.R.S., L.S.A., &c. London: Bell & Sons. 1886.

THIS volume, we are told, is the continuation of *Essays on Medicine*, which were begun in 1851, and comprises Nos. 45 to 50. In the introduction we find an explanation of the terms *organopathy* and *antipraxy*, the former referring apparently to the local action of all drugs, and the latter to the contrary action of certain larger and smaller doses of each drug. Under these two heads Dr. Sharp conceives that he has discovered by induction two fundamental laws of therapeutics, based on observed facts. In order to show the importance which the author attaches to his observations, it will suffice to mention that he expresses a hope that they will do for medicine 'what Sir Isaac Newton's law of gravitation has done for astronomy, and what Richter's and Dalton's law has done for chemistry, &c.' Such a claim is startling, and causes one to turn to the book with feelings of the liveliest curiosity. The author first sets himself the task of proving, by means of quotations from well-known writers on the science of therapeutics, that no such science exists—that the so-called science of therapeutics is a disreputable compound of erroneous theorising and empiricism, and this it is easy to see, later on, he considers he has successfully accomplished. It is, indeed, the great regret of all earnest physicians that therapeutics lacks that basis of incontrovertible facts the discovery and observation of which have done so much for the allied sciences; but it is, nevertheless, rather hard on that account to dismiss this 'pretended' science as being merely vanity. Dr. Sharp incidentally displays a most wonderful repugnance for the knife and the cautery, and seems disposed to assert that our inability to control such diseases as cancer by means of drugs, is due far more to our ignorance than to anything else, although we are happy to say he does not pretend to have discovered by means of what agents other than the knife such maladies can be successfully dealt with. He is, indeed, the very Jeremiah of medicine; according to him, our theories are and always have been wrong, and our practice consequently idle when not pernicious. He cries aloud over the 'desolation,' the 'formless void' of present-day therapeutics, and takes advantage of the opportunity to throw a wet blanket on the satisfaction with which 'his friend Lauder Brunton' regards the progress accomplished. Practice is so unsettled that, to quote his words, 'were not the public so wonderfully unacquainted with professional affairs, their confidence in doctors and physic would have evaporated long ago.' He hopes that some day they will become cognisant of the fact and 'boycott' the profession into adopting some other method of practice—antipraxy, for example. Turning to homœopathy, Dr. Sharp promptly demolishes its theoretical foundation, but appears, however, to see in it a part of the grand truth which he gives us to understand is to be found in its integrity in antipraxy. The absence of clinical confirmation of Hahnemann's idea is due, we are told, to his having ignored the fact that the effect of large doses of a drug may be just the opposite to that produced by other and smaller doses. Like curing like is not, therefore, an 'ultimate fact,' whatever else it may be. The essential difference between the author's system of medicine and those which have preceded it consists, he tells us, in the latter being based on deductions from hypotheses, while the former is a deduction from a general fact. What this general fact is and how it is substantiated is a question not quite so easy to answer. We must confess to not having gleaned much information from the chapter on the 'Future of Medicine,' promising as is the title. This 'future,' about which so much has been written, seems as promising or as doubtful—according to the particular views of the reader—as before, *ni plus ni moins*. The volume concludes by a chapter on the objections to antipraxy, which is practically a reply to a letter from Dr. Bristowe. It really seems more a reply than an answer, in the sense that the refutation of Dr. Bristowe's arguments is nowhere complete, and is often altogether wanting. ALFRED S. GUBB.

ARTICLE 6196.

Inflammations of the Liver and their Sequelæ. By Dr. G. HARLEY. London: J. & A. Churchill. 1886.

THE author considers that gluttony and intemperance are the chief exciting causes of hepatic abscesses, and that their influence on Europeans living in the tropics is far greater than on those resident in temperate zones.

The Indian vital statistics from 1870-79 are discussed, and it is shown that the death-rate of the troops from hepatitis varies from ·27 per 1,000 at Hyderabad to 4·93 at Barrackpore. The stations are classified according to humidity, altitude, and latitude, but without any result; and, while allowing that chill is a most important cause, the author suggests that micro-organisms can alone account for the extreme variations in the hepatitis' death-rates at stations within a few miles of one another; *e.g.* at three military stations on the Hugli within ten miles of one another, the death-rates are: Fort William, 1·95 per 1,000; Dum Dum, 2·14; Barrackpore, 4·93.

The author adduces statistics which state that in the Bombay hospitals ·58 per cent. of native patients have hepatic abscess, ·66 per cent. of Europeans, while ·81 per cent. of patients at St. Bartholomew's Hospital die with abscess of the liver.

According to this, hepatic abscess is much more common in London than in India, which is most improbable.

The treatment recommended for an enlarged tender liver is to puncture the capsule of Glisson with a trocar of the diameter of a No. 2 or 6 catheter. The following successful case is detailed. A Dane, aged 52, accustomed to free living in the tropics, gave a history of an attack of jaundice two years previously. The liver dulness in the nipple line was 8 inches; three months later, after a course of treatment at Carlsbad, the measurement was 6 inches. The left lobe of the liver was then punctured with a No. 2 trocar in two places, and the right lobe with a No. 5 in one place, the instruments being left in for several minutes. There was no after-trouble. Three days later the dulness had diminished ¾ of an inch, and he left England in three weeks feeling quite well, and with the liver dulness almost normal.

Among the cases of abscess found *post mortem*, is one of a patient with an enlarged indurated liver, which was punctured in six places six weeks before her death. Whether there was any connection between the abscess and this treatment is not stated.

In cases of acute hepatitis the author recommends hepatic phlebotomy, which is performed by piercing the upper half of the liver from right to left with a trocar 8 inches long, of the diameter of a No. 3 catheter. The transverse fissure is thus avoided, and the trocar is gradually pulled out until the blood flows from one of the hepatic veins which has been pierced. About twenty ounces may be allowed to flow.

The following is the author's first and also successful case of such treatment.

A lady, aged 38, of intemperate habits, was suffering ascites with an enlarged and indurated liver. The legs were œdematous. The abdomen was tapped, and aperients given, but her case being considered otherwise hopeless, it was decided to perform hepatic phlebotomy. After the operation, the liver gradually diminished in size, and, by the aid of tapping and the administration of the resin of copaiba, the ascites and general anasarca gradually disappeared, and in two months she was able to walk three miles, and felt perfectly well, being only a little weak and stiff from the walk.

The ascites of liver disease the author considers to be due to the hepatic tissues constricting the vena cava, and consequently it never should occur except when the portion of liver tissue actually surrounding the vein is diseased. The fluid, he states, is effused from the coats of the vena cava and other abdominal veins. Paracentesis should be deferred as long as possible, and the recumbent posture for the operation is recommended.

The author considers that patients with hepatitis are peculiarly liable to hæmorrhages, whether in the form of epistaxis, hæmatemesis, melæna, or cerebral hæmorrhage. The not uncommon attacks of epistaxis in childhood are said to be due to congestion of the liver. Biliary sand and gall-stones not infrequently are the cause of fretfulness and convulsions in infants at the breast.

The treatment recommended and many of the statements in this book are undoubtedly novel; will they stand the test of experience? G. N. PITT.

ARTICLE 6197.

Du Délire chez les Dégénérés, Observations prises à l'Asile Sainte-Anne. 1885-86. (Service de M. MAGNAN). Par le Dr. M. LEGRAIN. Paris, 1886. A. Delahaye et E. Lecrosnier.

IN this book Dr. Legrain makes a special study of hereditary insanity. He regards persons so affected as suffering from progressive degeneration transmitted from their ancestors. This may present itself in the completed form of idiocy; or the blight may affect the faculties unequally, so that the heirs of the neurotic tendency may be affected with some form of neurasthenia or dipsomania; or they may become the victims of insane ideas which lead up to melancholia, delusion, hallucinations, or other extravagances of the passions or reasoning faculties. It is on this last group of mental diseases that the author principally expends his attention. Not only do those whom he calls degenerated bear the physical marks, the stigmata, of an evil heredity such as deformations of the jaw and base of the skull, but he insists that the mental symptoms themselves have a special character distinguishing them from those affected with acquired insanity. To use his own words: 'Les dégénérés ne délirent pas comme les autres aliénés.'

These individuals show in their insanity the same illogical, eccentric, and original character that they have done before their derangement had become so decided that it attracted public recognition. Nevertheless Dr. Legrain acknowledges that they may have all possible varieties of insanity. These individuals, never quite sane, are subject to exacerbations of short duration which have no logical connection with the chronic insanity that is slowly advancing. Thus, in the course of the evolution of the mania of persecution, ideas of grandeur suddenly arise, holding possession of the mind for some hours, or some days, and then subside, leaving no trace behind them. The author considers such capricious exaltations of mind peculiar to hereditary or degenerative insanity. He gives instances of the formation of degeneration by reviewing the history of the ancestors of his patients. Alcoholic excess is one of the most powerful factors in commencing this degeneration, which passes from the parents to the children, while the heirs of the neurosis are themselves prone to indulge in drink, which becomes in its turn the cause of acute attacks of insanity.

Dr. Legrain's generalisations are illustrated by a large number of cases, which are described in a clear and graphic manner. With him hereditary disposition seems the main cause. The patient may indeed escape the asylum, either through inheriting less of the neurotic constitution or by leading a life free from the exciting causes of insanity, but the predisposition is there. The mental balance is easily overset, like a badly-constructed machine, taking divergent curves and working wrong ways. Of the general truth indicated by M. Legrain there is little question. Apparently some people cannot become insane. Melancholia, for example, is very common with persons of a neurotic tendency; a trifling misfortune will bring it on. On the other hand, we see some people tried with every variety of disaster, which afflicts or saddens them for the time, but their mind always rights itself. In the one case, no doubt, we have a nervous system through hereditary tendency prone to yield to lowering influences; in the other we see the reactive power of a healthy mind working in a healthy body. Then we have cases where the ancestors seemed sound, but in which, through injuries, disease, or dissipation, the insanity is apparently evolved during the lifetime of the individual. The man has no unhealthy forefathers, but during his own life the morbific influences have so accumulated that he becomes the prey of some form of insanity. It is often difficult to find out the ancestral history of insane patients, but such forms are no doubt common enough, and Dr. Legrain apparently holds that he could distinguish such cases of acquired insanity by their clinical character from the instances of hereditary degeneration described in his book. We doubt whether in an asylum without any history of the patients Dr. Legrain could pick out the *dégénérés* from the rest by the character and succession of the mental symptoms. If he possess such an insight, we do not feel assured that he has succeeded in communicating it to his readers. Nevertheless, the book is both interesting and instructive, and cannot be safely passed over by any one who studies the important subject of hereditary degeneration. WILLIAM W. IRELAND.

ARTICLE 6198.

The Normal and Pathological Histology of the Eye. By C. FRED. POLLOCK, M.D. London. J. & A. Churchill. 1886.

THIS manual bears evidence of being the result of conscientious labour extending over a considerable time, and will serve a very useful purpose.

It is divided into two parts, the first consisting of short descriptions of the anatomy and pathology of the various structures of the eye, and the second, which is much the larger, of two hundred and thirty illustrations of the text. These two parts are separated by the index which gives references to both. Of the several ways in which the book might have been planned this appears the most inconvenient that could have been chosen. The omission of references from the letterpress to the illustrations, and *vice versâ*, we also think is a mistake.

If, however, we object to the arrangement of the book, we have little but praise for its matter. It is essentially an atlas of histology, and its claims must therefore rest upon the choice of subjects, and the manner of illustrating them. The subjects are microscopical specimens of nearly all the structures of the eye, in their normal state, and under numerous pathological conditions, and Dr. Pollock is certainly to be congratulated upon his collection and the use he has made of it.

The drawings nearly all bear unmistakable evidence of being faithful, and not diagramatic, representations of specimens. For this very reason some of them are at first sight a little unattractive, but they will prove most useful to the student. A partly diagramatic representation of a microscopical section is to some extent justifiable when the defects of one part of the section are merely supplied by copying from another part which is more perfect in that particular; but such drawings are apt to lead a student to study them rather than actual specimens, and when he comes to examine the latter he often fails to recognise structures with which he is perfectly familiar in illustrations. There seems to have been little or no attempt made at 'touching up' the drawings; when a structure has appeared vague and ill-defined in the specimen, it is so in the drawing.

The section of epithelioma of the eyelid (fig. 10) is seen under so low a power that no one, we are convinced, would recognise it; if a portion had also been shown under a high power, as in fig. 11, it would have been most useful. We have seen the lacunæ of the cornea better shown than in fig. 27. Fig. 30, is, however, a good representation of a vertical section of the cornea. If figs. 90–93 (representing colloid growths from the choroid) are not diagramatic, the specimens from which they are taken are exceptionally excellent.

The illustrations of the optic nerve and retina are all very good, although the layer of rods and cones is not well shown in any. The book concludes with a short account of the development of the eye.

W. ADAMS FROST.

ARTICLE 6199.

Sketch-Book for Ophthalmoscopic Observations. By Dr. U. HAAB. (Trübner & Co.)

IT is extremely difficult to convey an accurate idea of any unusual ophthalmoscopic appearance without the aid of a coloured sketch. Unfortunately, to make this requires not only a certain amount of artistic skill, but the mere mechanical work of filling in the groundwork of the fundus involves an expenditure of time which is out of all proportion to the result. The little book before us is an attempt to minimise the latter difficulty, which will, we believe, prove a success.

The book consists of a series of leaflets uniformly coloured to represent the normal fundus reflex; some of these are blank, others have the optic disc represented; others, again, the chief retinal vessels. The pigment is laid on in such a manner that, when rubbed with an India-rubber style provided for the purpose, the colour is changed first to a more yellowish red, then to yellowish white, and finally, as the paper becomes exposed, to white. It is perfectly easy in a few seconds to produce both the woolly-looking patches, and the sharply defined glistening white spots met with in albuminuric retinitis, the former with the India-rubber and the latter with the point of a penknife. A dark and light red pencil are provided for delineating vessels or blood extravasations. Pigment can be represented by ink or pencil according to its depth.

It is astonishing how quickly and accurately a sketch can be made with the aid of this book, of conditions which it would take hours to depict in water-colours, and this by anyone possessed of no more than a slight knowledge of drawing, while the execution of a water-colour drawing requires considerable artistic skill, and special experience. There is no reason why a coloured sketch of the fundus should not in future form part of routine note-taking of every ophthalmoscopic case, instead of being, as at present, a rare and expensive luxury.

W. ADAMS FROST.

ARTICLE 6200.

Rules regarding Defects of Vision which Disqualify for the Indian Government Service. By J. FAYRER, K.C.S.I., M.D., &c. London: J. & A. Churchill. 1886.

THE uncertainty which at present exists as to the standard of vision required to qualify for the various services not unfrequently inflicts great hardship upon candidates by allowing them to embark upon a career which they are not allowed to complete, while it deters others from becoming candidates owing to the existence of some error of refraction or defect of vision, which perhaps would not really have disqualified them. The intention of these rules, which have received official sanction, is to remove this uncertainty.

Although Sir J. Fayrer is, in consequence of his official position, the nominal author, we gather from the preface that the real compilers are Messrs. J. Couper and C. Macnamara.

The standard required differs in the various departments. For the Pilot Service emmetropia, normal acuity of vision, and colour-sense are requisite. The Civil Service is the least exacting; the standard required is that vision with any existing ametropia corrected should be 6-6ths, with one eye, and not less than 6-9ths with the other. No morbid change must, however, exist in either eye, except that a non-progressive staphyloma is allowed, provided that the myopia does not exceed 2·5 D. It is probably impossible to exclude the element of uncertainty altogether, and a difficulty will often arise in determining whether a staphyloma is progressive or not.

In some branches a total hypermetropia of 4 D. disqualifies, but as no instructions are given as to when atropine should be used, and to what extent, a considerable latitude is, in reality, left to the examiner.

The different standards appear to us to be well adapted to the duties appertaining to each branch of the Service, and to be fair both to the candidates and to the Government.

We confess that in a semi-official document like this we should like to have more conciseness and less evidence of hasty drafting. For example, on page 16 it is implied that the shadow-test is not adapted for the most common variety of astigmatism—the compound. The phrase 'absolute acuteness of vision and of accommodation' occurs several times, the term 'latent hypermetropia' is used throughout for total 'hypermetropia.' The statement that 'hypermetropia appears to be an increasing cause (*sic*) of ametropia among all classes of our population' is so contrary to prevalent ideas that we are inclined to think that the word hypermetropia must accidentally have been substituted for myopia.

The publication of these rules will, however, we believe, serve a most valuable purpose in enabling intending candidates and their advisers to determine with some approach to certainty whether their vision reaches the required standard.

W. ADAMS FROST.

ARTICLE 6201.

Sitzungsberichte der Physikalisch-Med. Gesellschaft zu Würzburg. Würzburg. 1885.

THE records for the last year include several important papers of which the following are the chief.

1. Bumm on a diplococcus, which he obtained from a case of mammary abscess.

2. Gerhardt.—When a vocal cord is paralysed in the median line, is this due to paralysis of the posterior cricothyroid or to contraction of the adductors? The author records twenty cases collected by Dr. F. Semon, in which there was compression of the recurrent laryngeal nerve with fatty and nuclear degeneration of the posterior cricothyroid muscle. From Krause's investigations he concludes that long-continued irritation of the recurrent nerve ultimately leads also to contraction of the adductors, but that the degeneration of the abductors takes place very early. The abductor paralysis may be due to (*a*) disease of the recurrent nerve; (*b*) disease limited to the abductor muscles; (*c*) cerebral lesions.

3. Reubold on Adipocere.—The author noted that in about one-fifth of the corpses he had exhumed he had found adipocere. It forms most readily in a moist clay soil which is but slightly porous. About half is a soap consisting almost entirely of calcium with a little magnesium and no ammonia, combined with the three common fatty acids, and the remainder, soluble in hot alcohol, consists of the three acids uncombined; there are also tissue and vegetable growths. Muscles, although converted into adipocere, may retain their form; tissues, in undergoing the change, increase in volume. The author has found the material in corpses, one to two hundred years old, while Caspar-Liman record a case in which, three years after death, some of the sub-connective fat presented an unchanged appearance, and nowhere was there any adipocere. Small insects usually consume the tissues, but, where these have not flourished, Ermann has found the remnants of the brain after fifty to seventy years. Virchow considers that adipocere forms from albuminoids.

4. Matterstock on the so-called bacillus of syphilis. The author found in the majority of specimens of secretions from syphilitic sores Lustgarten's syphilitic bacillus, but in sections of syphilitic tissues it was only found in about one-fourth, and then only solitary specimens. It was not found in the blood. At first he was not able to find it in any but syphilitic secretions and tissues, but in a later paper he states that bacilli which stain in the same manner can be found in the smegma of the labium or prepuce of non-syphilitic people. The distinguishing feature about the staining of all of these bacilli is that, when stained in a carbolic solution of fuchsin they are not decolorised if placed in a solution of permanganate of potash and of sulphuric acid, but they are decolorised if placed in a solution of sulphuric acid alone, thus differing from the tubercle-bacilli. Pure cultivations of the bacilli as yet have not been obtained, nor has syphilis been produced by vaccinating with them. If the bacillus of syphilis reacts to staining agents as above, it has yet to be distinguished from that of smegma. The bacilli which have been found vary so much in size that they may be divided into five varieties.

5. Maas records a successful case of resection of 37 centimètres of gangrenous strangulated small intestine in a man of 30; Hoffa of double resection of the knee-joint in a man aged 17, and of the hips in a boy aged 7.

6. Grashey has found, by means of a piezometer, that the brains of mice, hens, and pigeons are less compressible than boiled, *i.e.* airless water.

G. N. PITT.

NEW INVENTIONS.

INSTRUMENTS FOR EXAMINATION OF THE RETINA.

AT the Medical Congress at Nancy, M. Charpentier, of that town, showed a new instrument for the clinical examination of the visual functions. This instrument could be used (1) for examining luminous sensibility, by means of the minimum quantity of perceptible light; (2) for examining the perception of colours by the same method; (3) for examining the perception of the differences of light in white or coloured light; (4) for examining the perception of colours by means of a new method, which consisted in causing a coloured object to appear upon an uncoloured ground. The colour was rendered gradually more and more intense, until it was recognised by the eye. This instrument was composed of a horizontal copper tube, about five centimètres in diameter, supported by a stem fixed to a wooden slab. This tube was closed at each end by a piece of ground glass, which could be replaced, when necessary, by a translucid paper or china disc. By the action of two almost contiguous convergent lenses, the image of the ground glass was thrown upon the front disc. A movable screen, with an aperture which could be made smaller or larger, was placed between the two lenses; different sections of the surface could thus be seen on these lenses, and the lighting of the front glass could consequently be regulated at will. The light thus thrown was in proportion to the free surface of the opening of the diaphragm in question.

This free surface was always in the form of a square, the side of which was marked in millimètres upon an external graduation. The front glass, placed at the end of an ocular tube, was the eye-piece, and constituted, when the eye rested on the opening, a dark chamber. This ocular tube was united to the first tube with lenses, by a square box, of which the left side could be open or shut as desired. An oil lamp was used to give a constant illumination of the back part of the instrument. A special apparatus, placed between that part and the source of light, held the coloured glasses destined to determine the minimum of perceptible colour.

NEW INSTRUMENTS.

At a recent meeting of the Biological Society, M. Malassez presented a series of instruments—a colorimeter, a glass cylindrical receptacle for spectroscopic examination, a warm stage, and a heating plate for warming preparations. M. Malassez also drew attention to the advantage of using naphthacarbol in laboratories for lighting purposes; the light was white, steady, and gave off only a small amount of heat.

M. Ruault, of Paris, presented two instruments at one of the meetings of the Congress at Nancy. One apparatus, called an inspirating injector, allowing the aspiration of any morbid liquid to be immediately followed by a medicinal or antiseptic injection into the cavity where the instrument is placed. A second apparatus, called a stomach douche, can be adapted to the first-named instrument, and the washing of the stomach can be effected with the smallest quantity possible of liquid. The advantage that these instruments offer is the facility with which the stomach can be cleansed without being dilated, which formerly could never be accomplished.

NEW PREPARATIONS.

BON FOOD.

The new food, manufactured and sold by the Bon Food Company, of 31 Charlotte Street, Old Kent Road, is designed to provide a sustaining and appetising farinaceous food for invalids and children. It is palatable and highly digestible, and when made into a custard furnishes an article of diet which will be beneficial in the difficult question of invalid diet. It is, moreover, supplied at a price which renders it available for use even in the households where the cost of the nourishment provided has to be considered. It will doubtless become a popular means of securing the assimilation of that nourishment which is so important an item in the treatment of many ailments. The department of dietetics is one which is now recognised to be an important and even essential feature in therapeutics.

MESSRS. EDGE BROTHERS' (LIMITED) INVALID DELICACIES.

Some time since we called attention to the dietetic preparations of the Lion Manufacturing Company, Hatton Garden, consisting of Essence of Beef, Concentrated Beef Tea, &c., our analyst having expressed a most favourable opinion of their qualities. Since then the company has been reconstituted, its operations considerably enlarged, and the offices removed to 17 Farringdon Road, E.C. The elegant preparation of Essence of Beef, to which we drew particular attention, is sent out for sale in glass jars, hermetically sealed by a patent cover or capsule. Some doubts were expressed as to the capabilities of the Essence of Beef to withstand time and climate so put up, but it has been effectually proved that there is nothing to be feared on these points, while the advantage of glass vessels over tin receptacles need not be expatiated on. The firm have in their possession several samples that have been round the world, and consequently exposed to greatly varying zonal temperature; they are as pure and perfect to-day as when they were first put up, two years since.

MISCELLANY.

Comparative Pathology.—At a recent meeting of the Biological Society, M. Raphael Blanchard showed a lizard which had a papilloma, probably of acarian origin, on its back.

Deaths from Anæsthetics in England.—During the year 1885 twelve deaths were reported in England from chloroform, and three from ether. No death is known to have occurred from any other anæsthetic.

The French Academy of Medicine Prizes for 1887.—The arrangements for the prizes offered by the French Academy of Medicine for competition during 1887 are as follows:—The Academy Prize (10.000 francs): 'Vaginal Hysterectomy, the Indications and Operative Procedures.' The Argenteuil Prize (10,000 francs); this prize, which is sexennial, will be awarded to the author of the most notable improvement in measures for the cure of urethral strictures, or to the author of the best work on the treatment of other diseases of the urinary passages. The Barbier Prize (2,000 francs) will be given to the discoverer of the most efficient means of curing diseases considered incurable, such as rabies, cancer, cholera, &c. 'Encouragement' may be accorded to those who come nearest to attaining the object without actually accomplishing it. The Henri Buignet Prize (1,500 francs) is for the best written or printed work on the applications of physics or chemistry to medicine. Foreigners are not allowed to compete for this prize. The Capuron Prize (1,000 francs): 'Post-partum Involution, the Changes and Pathological States which result.' The Civrieux Prize (1,000 francs): 'Vesical Neuralgias.' The Daudet Prize (1,000 francs): 'Actinomycosis.' Authors must present original observations made in France. The Desportes Prize (1,200 francs) for the best work on 'Practical Medical Therapeutics.' The Ernest Godard Prize (1,000 francs), for the best work on 'External Pathology.' The Hygiene of Infancy Prize (1,000 francs): 'A Clinical Study of Athrepsia.' The Laval Prize (1,000 francs), for the most meritorious medical student. The Lefèvre Prize (2,000 francs): 'On Melancholia.' The Auguste Monbinne Prize (1,500 francs), is a fund to be expended for scientific missions, &c. The Portal Prize (600 francs): 'On Primary Renal Tuberculosis.' The Saint-Lager Prize (1,500 francs), for experiments to produce goitre in animals by administering substances extracted from the water or earth of goitrous regions. The prize will not be awarded unless the experiments have been successfully repeated by the Academy's commission. The Vernois Prize (800 francs), for the best work on hygiene. Competing essays for all these prizes must be sent to the Academy before May 1, 1887, written in French or Latin, accompanied by a sealed envelope and a device to identify the author. The condition of concealment of the author's name does not apply to competitors for the Argenteuil, Barbier, Buignet, Desportes, Godard, Monbinne, and Vernois prizes.

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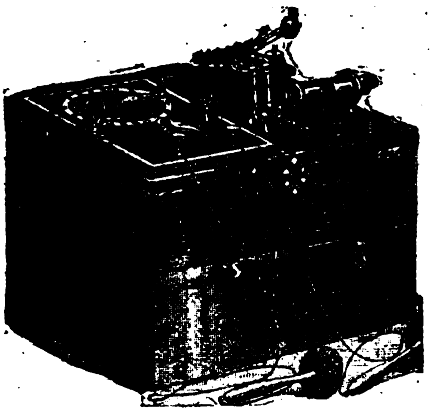

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'Brixham, October 1881.

'GENTLEMEN,—I should like to bring before your notice the very great benefit two patients of mine have derived, and are still deriving, from the continued use of NEPENTHE. The first case is that of an old lady nearly 80, who has been suffering now for many years from an ulcerated leg, accompanied at night with very great pain, so much so as to prevent her sleeping. About eight years ago I persuaded her to try a dose of NEPENTHE at bed-time, and she has continued taking a dose regularly *every night ever since*, without any of the bad symptoms generally induced by the continued use of an opiate, but on the contrary is now, although so aged, in better health than she was eight years ago. The other case is that of a cancer of the face and neck (a very bad case): here there was an intensity of pain which nothing seemed to relieve, although opium, morphia, chloral, and every other sedative which could be thought of, had been tried. I at last tried the NEPENTHE, and the result has been an entire cessation of the pain, which has not yet returned, although he has had the medicine now for some weeks. I may mention that in the first case it has not been necessary to increase the dose, and in the latter not to any great extent, which I consider another great advantage NEPENTHE possesses over other preparations of opium. 'GEO. C. SEARLE.

On the 4th February, 1886, Mr. SEARLE writes:—'You will be glad to hear that my lady patient [referred to above] is still alive and still takes her nightly dose. At the present time she is better than she has been for two years. If she lives till next June she will have taken a dose of NEPENTHE every night for *thirteen years*.'

From 'THE LANCET,' December 18th, 1869.

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The London
Medical Record

A MONTHLY REVIEW OF THE

Progress of the Medical Sciences and of
Subjects relating to Public Health

EDITED BY ERNEST HART

FOR CONTENTS SEE PAGE XIII

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Article 6202.

PASTEUR ON THE PREVENTIVE TREATMENT OF RABIES.

At a recent meeting of the Academy of Science M. Pasteur read a further paper on the preventive treatment of rabies. He stated that two thousand four hundred and ninety persons have been treated by his method for rabies. Formerly the treatment lasted ten days. A daily injection of a fragment of medulla removed from a rabbit was practised on each patient. The first injection was made with a fragment of medulla 14 days old. The two thousand four hundred and ninety persons thus treated represented different nationalities in the following proportions. England, 80; Austro-Hungary, 52; Germany, 9; Belgium, 57; Spain, 107; Greece, 10; Holland, 14; Italy, 165; Portugal, 25; Russia, 191; English India, 2; Roumania, 22; Turkey, 7; Switzerland, 2; United States, 18; Brazil, 3; France and Algeria, 1,726.

The number of French and Algerian patients amounted to 1,700. Among these 1,700 thus treated there were ten failures. Two failures were attributed to tardy arrival; in one instance thirty-six days, and in the other forty-three days had elapsed since the bites were inflicted. M. Pasteur's statistics show that for France and Algeria among 1,700 patients inoculated by his method ten deaths resulted; thus the proportion is 1 per 170. Every case of rabies received in the Paris hospitals is immediately communicated to Dr. Dujardin-Beaumetz, member of the Conseil d'Hygiène et de Salubrité de la Seine, who investigates and reports all such cases to the Conseil. In the last five years sixty persons died of rabies in the Paris hospitals, which makes an average of twelve in a year. Last year there were twenty-one deaths. Since November 1, 1885, when M. Pasteur's treatment was first practised up to the present time, there have been three deaths from rabies in the Paris hospitals; two of these were of persons not inoculated; the third death was of a person inoculated, but not according to the more energetic method described later on in this communication. The cases of failure M. Pasteur has to report were principally of children. These were bitten in the face, and were treated according to the early method. M. Pasteur has since acquired the conviction that this treatment is inefficient in bites of this description. When three of the nineteen Russians from Smolensk, who had been bitten by a mad wolf, succumbed—the first during treatment, the two others after—he feared that the treatment might prove ineffectual as a prophylaxis for rabies contracted from the bite of a mad wolf. It then occurred to him that all the dogs successfully vaccinated had received, as a last preventive inoculation, an injection with a portion of virulent medulla extracted the same day. The last injection practised on Joseph Meister was made with a medulla extracted the previous day. M. Pasteur accordingly subjected the remaining sixteen Russians to a second and third treatment, in which injections were made with portions of spinal marrow, four, three, and two days old. M. Pasteur believes that the recovery of the sixteen Russians was due to having thus repeated the treatment.

Encouraged by these results, M. Pasteur has intensified his treatment, making it more speedy and active in all cases, and still more so for cases of bites on the face, or for deep and numerous bites in exposed parts. The inoculations succeed each other more rapidly, in order to arrive at inoculation with fresh medulla. On the first day an injection with medulla of twelve and eight days old is made at eleven, four, and nine o'clock; on the second day at the same hours with medulla of six, four, and two days; on the third day one injection with a spinal marrow one day old. The treatment is then recommenced on the fourth day with medulla of eight, six, or four days old; the fifth day with medulla of three and two days; the sixth day with medulla [of one day; the seventh day with medulla of four days; the eighth day with medulla of three days; the ninth day with medulla of two days; the tenth day with medulla of one day. Three treatments in ten days are thus made, and in each series the more recent medulla is finally employed.

If the bites are not cicatrised, or the person bitten has delayed being treated, these series of treatments are applied after an interval of two or three days has elapsed between each series. The fourth or fifth week, the dangerous period for children bitten in the face, is thus reached. This method of vaccination has been in operation for the last two months, and the results up to the present time are very satisfactory. The following facts afford sufficient proof of this. The six children subjected to the simple treatment succumbed, whilst ten children bitten in the same manner last August and subjected to the intensified treatment (*traitement intensif*) recovered, and as the dangerous period rarely exceeds in the case of children from four to six weeks, the patients in question are out of danger.

M. Pasteur observed that his prophylactic treatment of human beings for rabies founded on the results from inoculating dogs which had not been bitten, might be objected to on the grounds that the conferred immunity of these animals from rabies, after injection, had not been sufficiently demonstrated. The fact of the refractory state of the dogs after trephining and intracranial inoculation, is sufficient answer to this objection. Trephining is the most certain method of infection, and its effects are unvarying. The author's first experiments of this kind were made in August 1885, and were followed by partial success. These are the conditions that ensure success; vaccination must be begun the day following inoculation and be rapidly effected, the series of preventive medulla being administered in twenty-four hours, or less. This treatment to be repeated once or twice every two hours.

The failure of Dr. Frisch, of Vienna, in experiments of this description was due to the slow method of vaccination he pursued. The success or failure of the vaccination of animals after their infection is dependent on the rapidity and intensity of vaccination. The immunity conferred under these conditions is the best proof of the excellence of the method. W. Vignal.

ARTICLE 6203.

POEHL ON THE BIOLOGO-CHEMICAL PROPERTIES OF MICROBES.

AT a recent meeting of the Russian Chemical Society in St. Petersburg, Professor A. V. Poehl (*Vratch*, No. 8, 1886, p. 157) made a very interesting communication on his experimental study of the vital process of various microbes. The formation of ptomaines in nature, he says, is mostly caused by the vital action of micro-organisms. While studying the microbes of human fæces, the author found that in morbid cases there appear in the intestines several kinds of microbes, possessing the property of decomposing proteid bodies. To use Hoppe-Seyler's words, the decomposing action of bacteria on proteids resembles that of caustic alkalies (while ferments act on proteids like weak acids). Under the splitting action both of bacteria and caustic alkalies, there simultaneously appear the products of oxydation and those of reduction, which fact is explained by decomposition of water (H_2O) into an oxydising hydroxyl (HO) and a reducing hydrogen (H).

Ptomaines belong to the products of disoxydation. Dr. Poehl succeeded in demonstrating the reducing action of certain micro-organisms on the surrounding nutritive medium during their growth. He recommends taking a neutral nutritive jelly, to which is added 0·05 per cent. of perchloride of iron and 0·05 per cent. of red blood salt (ferric potassium cyanate). Micro-organisms endowed with a reducing power give rise to a blue coloration of the jelly (in consequence of formation of Berlin blue), which commences in the lowest part of the track left by an inoculating needle, but subsequently spreads around in the jelly (since ptomaines, on their being absorbed by the jelly, also deoxydise the latter).

Dr. Poehl examined in that way cholera-bacilli brought by Professor Raptchevsky from Spain, typhoid-bacilli, Finkler's and Prior's bacilli, certain microbes of pus and fæces, as well as microbes of water from the Neva. A quite distinct reduction was obtained from the cholera-bacillus, typhoid bacillus, some of the microbes of pus, fæces, and the Neva water, and from 'Bienstock's Bacterium,' No. 4. But Finkler's and Prior's microbe of cholera nostras gave no reduction, since it does not produce ptomaines (though it freely peptonises syntonine). Hence the author proposes to use that biologo-chemical behaviour as a means for distinguishing between Koch's microbe of Asiatic cholera and Finkler-Prior's bacillus of European. As a rule, micro-organisms liquefying (under ordinary conditions) nutritive jelly do not possess either a reducing power or a power of forming any ptomaines. When present in the intestines, the cholera-bacillus also produces a reducing action on the surrounding medium and leads to the formation of ptomaines (the presence of which in cholera cases has been actually proved by Klebs, Pouchet, Nicati and Rietsch, &c.). The author feels sure that cholera could be usefully treated by the administration of oxydising remedies, such as chlorinated water, peroxide of hydrogen, salts of permanganic acid, &c.; they are indicated the more strongly, since most of ptomaines are destroyed by the action of oxydising agents. [Referring to the therapeutic dictum of Professor Poehl, Professor Manassein expresses his doubt that chlorinated water and peroxide of hydrogen, taken internally, could reach the intestines undecomposed.—*Rep.*] V. IDELSON, M.D.

ARTICLE 6204.

FEDOROFF ON ABSORPTION OF MEDICAMENTS BY THE SKIN.

THE question whether an intact human skin may absorb solid medicaments from solutions applied to it by means of an atomiser, continues to receive contradictory answers. Thus, while Sereys (*Thèse de Paris*, 1862), Kedroff (*St. Petersb. Inaug. Dissertation*, 1863), L. and E. Bremond (1873), Roehrig (1876), and Juhl (*Deutsch. Archiv für Klin. Med.*, 1884, vol. xxxv., fasc. 5) decide the question in an affirmative sense, Wittich (1881), and Ritter (*Deutsch. Archiv für Klin. Med.*, 1883, vol. xxxiv., fasc. 2), obtained but negative results from their own experiments.

To elucidate the matter, Dr. Peter F. Fedoroff, of St. Petersburg (*Meditz. Pribavl. k' Morsk. Sborn.*, January 1886, and *St. Petersb. Inaugural Dissertation*, 1885), has undertaken a course of very careful experiments which in their details (but not in their results) strongly remind us of those made by Juhl. Fifteen observations were made on three women with soft hairless skin (a female medical student and two maid-servants), and three men (a medical student, and two *dvorniks* [=gatekeepers]). In all the cases, every possibility of drugs being absorbed by the lungs or any other part of the body, both during and after the experiment, was absolutely excluded. This was attained by the author (who conducted his researches at his private lodgings) in the following way. The person experimented upon was seated in a most easy and comfortable posture on a cosy low armchair, while his or her lower limbs, stripped up to a certain part of the thighs, were passed through two correspondingly large openings made in the door leading to an adjoining room, the heels being conveniently placed on a box. All holes, cracks, &c., in the door were hermetically sealed; so that, while the subject remained in one room, his or her legs were in another, in the strictest meaning of the word. As a rule, only one leg was subjected to irrigation with atomised solutions. Before the experiment, the legs were washed with warm water and soap by means of a sponge, and then wiped with a towel. After the experiment, they were carefully washed by an oblique jet from Esmarch's can, and subsequently softly dried (not rubbed) with a hygroscopic towel. A small steam-atomiser was employed, its nozzle being kept at the distance of ten centimètres from the leg—that is, at a distance which secured the greatest strength of jet thrown by the pulverisator. A litre of the fluid was pulverised each time, the procedure lasting from fifty to a hundred and twenty minutes. In ten cases, a 3 to 15 per cent. solution of iodide of potassium was used, in the remaining five a 6 to 12 per cent. solution of hydrochlorate of lithium. After each experiment, the author collected the whole amount of urine voided during next twenty-four hours, and examined it by Fleischer's method when iodide of potassium was employed, and by the spectroscope when hydrochlorate of lithium was used. In all fifteen cases the results were absolutely negative; not a trace of iodine or lithium was ever found in the urine of any of the persons experimented upon.

Hence the author draws the following general conclusion. 'The intact normal human skin does not absorb any fixed substances dissolved in water and pulverised by a spray-apparatus; neither the concentration of the solution, nor the temperature of the skin, nor the strength with which the pulverised jet plays, shows any influence whatever, so long as they remain within limits compatible with the integrity of the integuments.' V. Idelson, M.D.

Article 6205.

ANREP ON URETHAN AND ITS ANTI-CONVULSIVE ACTION.

In the *Vratch*, Nos. 31 and 32, 1886, Professor Vasily K. Anrep, of Kharkov, publishes an important paper embodying the results of his extensive experimental researches on the action of urethan on the nervous system in frogs, rabbits, dogs, and pigeons.

General Phenomena of urethan-poisoning are almost identical and constant in all the animals named. First symptoms induced by the drug are a more or less intense general excitement, and quickening of the breathing and cardiac action. The period of excitement lasts always a relatively short time, but is the shorter the larger is the dose given. It is followed either by a complete recovery, or by a second period, which is characterised by immobility, failure of reflex action, retardation of breathing, decrease of the temperature, and a more or less deep sleep, the intensity and duration of which symptoms vary according to the dose and individuality of the animal experimented upon. In young dogs the hypnotic action of urethan seems to be stronger than in the older ones. When the dose is very large (fatal), a third and last period of the poisoning takes place; it is marked by a further retardation of respiration, absolute unconsciousness, absence of reflexes, enormous fall of the temperature, and weakened and retarded cardiac action. This period uses to be very prolonged, and invariably leads to death from asphyxia. The fatal dose for a frog is as large as 0·4 gramme; for a rabbit, 7 grammes per kilogramme of the animal's weight; for a dog, 5 grammes per kilogramme. Therefore, urethan possesses but relatively slight toxic properties. Meanwhile, its action on the nervous system is very pronounced even when the drug is administered in comparatively small doses.

Reflex Action.—In frogs, small doses (0·03 to 0·1 gramme) are inactive; moderate doses (0·15 to 0·2 gramme) markedly lower the reflex-action; large doses (0·25 to 0·35 gramme) not only decrease the latter but also lower irritability of the peripheral endings of motor nerves. The failure of reflexes always precedes the change in irritability of the nerve-endings, takes place not earlier than about half an hour after the poisoning (that is, only when the hypnotic influence of the drug is in full action), and disappears with the animal's awakening from narcosis. After large doses, a full prostration ensues in half to one and a half hours; it depends solely upon paralysis of the spinal cord. In warm-blooded animals, a short period of increased reflex-action is observed, and only subsequently (after large doses) a decrease of the latter follows.

Sleep.—An average hypnotic dose for a dog and rabbit is 0·5 gramme per kilogramme. Easily excitable nervous dogs require considerably larger doses than the phlegmatic. After a 5 to 8 gramme dose, the animal falls asleep within twenty to forty minutes. The duration of sleep varies from several hours to two or three days. After awakening, general weakness, unsteady movements, and loss of appetite are observed. After a 10 gramme dose, the weakness lasts more than for twenty-four hours. Sensibility is more or less lowered for a short while before, during, and for one to ten hours after sleep.

Temperature.—A pronounced antipyretic action of urethan (which was first pointed out by Dr. Coze, and certainly deserves every attention of practitioners) is pretty constant. The fall of the (normal) temperature commences soon after the animal's falling asleep, may reach (according to the dose used) from 1° to 4° C., and last from two to six hours, to rapidly disappear after awakening. Fatal doses give rise to an enormous fall of the temperature (reminding only of cases of curare-poisoning). Thus, in a rabbit of 530 grammes in weight, poisoned by 3½ grammes of urethan, the temperature within four hours fell from the original 39°·7 to 32°·8 C., to descend as low as 26° C. by the end of twenty-four hours (death ensuing on the fourth day).

Psychomotor centres, as examined in dogs, show a considerable and prolonged (several hours) decrease of faradic excitability under the influence of hypnotic doses of urethan. Small doses of the drug produce only a short and slight increase of the irritability.

Anti-convulsive Action.—In view of a pronounced action of urethan on the spinal cord, Professor Anrep undertook a special series of experiments to study its relation to various convulsive poisons, such as strychnia, picrotoxine, nicotine, and resorcin. In frogs, urethan may arrest or prevent convulsions caused by strychnia, but cannot either bring recovery or even delay the animal's death; on the contrary, its large doses accelerate death from strychnia (since both of the drugs kill by inducing paralysis of the central nervous system). It is otherwise in regard to dogs, rabbits, and warm-blooded animals generally, in which death in the case of strychnia-poisoning is very often caused by asphyxia, in consequence of tetanic contractions of the diaphragm and thoracic muscles. When the animal has been poisoned by a moderate dose of strychnia, an early internal administration of a few grammes of urethan pretty surely prevents, or at least considerably soothes, convulsions. A repeated administration of large doses of urethan may save the animal poisoned by a relatively small fatal dose of strychnia. In cases of poisoning by very large doses of the latter drug, urethan only arrests convulsions and postpones death. The same may be stated as regards the relation of urethan to picrotoxine, nicotine, and resorcin. In other words, urethan possesses an anti-convulsive action, and may be usefully administered in cases of intoxication by convulsive poisons, as well as in diseases associated with convulsions. In this regard urethan occupies a higher stand than chloral, since, being as effective as the latter, it is free from any dangerous action on the organs of respiration and circulation. Judging from his experiments on dogs, Professor Anrep thinks that the doses of 8 to 12 grammes for an adult man may be given without fearing any dangerous or unpleasant accessory effects. At all events, in cases of poisoning, any good may be expected only from such large doses, since the smaller ones (3 grammes) would only give rise to a rather intense initial excitement. The most convenient mode of the administration of urethan in large doses is that through the rectum. The ingestion of large doses produces gastric disturbances.

V. Idelson, M.D.

Article 6206.

FISCHER ON TREATMENT OF THE AFTER-BIRTH STAGE OF LABOUR.

Dr. Andrei R. Fischer, house-physician to Professor K. F. Slaviansky's clinic, in St. Petersburg, publishes in the *Russkaia Meditzina*, Nos. 25-30, 1886, an able paper on the treatment of the third stage of labour by Credé's and Ahlfeld's methods. The paper is based on 625 cases which were admitted to the Pokrovsky Lying-in Hospital during last two years, and 460 of which were treated after Credé's method, while in the remaining 160 cases Ahlfeld's expectative plan was employed. In the former category of the cases the author acted in the following manner. During the very last moments of expulsion of the fœtus, he placed his hand on the uterine fundus to gently rub the latter; then, on appearance of the first uterine contraction, he clasped the fundus with his hand so that his four fingers would lie on the posterior wall of the organ, and the thumb and palm on the anterior, to produce a moderate, gradually increasing pressure during the acme of a contraction. If the first attempt was not followed by expulsion of the after-birth, the whole procedure (massage and pressure) was repeated on the next contraction. After expulsion of the after-birth, the patient received a scruple dose of ergot and was subjected to gentle massage of the womb for a half to one hour. The management of the third stage after the expectative plan was conducted in this way. Immediately after the child had been delivered, the author, besides tying the umbilical cord at two usual spots, applied a third ligature close to the external genital organs of the woman, to have an indicator for delivery of the after-birth; when the indicator showed that the cord descended from 12 to 15 centimètres (in other words, that the placenta was expelled from the uterine cavity), the woman was told to strain during a coming labour-pain. When repeated (four to five times) straining could not expel the placenta, the author placed his extended palm on the uterine fundus, and, during a contraction, pressed in the direction perpendicular to the plane of the pelvic entrance (as advised by Ahlfeld in his *Berichte und Arbeiten aus der Geb. Gynäk. Klinik zu Marburg*, 1883-84). In fifty-three cases of the kind, Dr. Fischer gave a scruple dose of ergot after expulsion of the placenta. The author arrived at the following conclusions. 1. When treated after the expectative method, the parturient loses about one and a half times as much blood as when treated by Credé's plan. [The amount of blood lost during the third stage of labour was in average 208 grammes in the latter category of cases, and 313 grammes in the expectative cases.] 2. In expectative cases, the *post partum* hæmorrhage requiring medical interference, occurs about two-and-a-half times more frequently than in the cases treated after Credé's plan. [The hæmorrhage occurred in 25 of 493 cases of the latter category—that is, only in 5 per cent.—while it occurred in 13 per cent. of cases of the former class.] 3. A manual extraction of the after-birth is required in expectative cases more often (7·4 per cent.) than in the cases treated by Credé's method (5·7 per cent.). 4. Retention of the chorion occurs in the former cases oftener than in the latter. 5. Puerperal involution of the womb proceeds more slowly in expectative cases than in the cases where Credé's plan is employed. 6. The course of the puerperal period in the former class is more unfavourable than in the latter. [Of the cases treated after Credé's method, 61·7 per cent. were non-febrile, 38·3 per cent. febrile, and 5 per cent. complicated with puerperal affections; the respective figures for the cases managed after the expectative plan were 53·6, 46·4, and 9 per cent.] 7. On the whole, Credé's method, while being fully rational from the physiological standpoint (as far as the mechanism of expulsion of the after-birth is concerned), at the same time satisfies all practical demands in regard to safety, easy practicability and rapidity, as well as good results on all sides.

V. Idelson, M.D.

Article 6207.

GENKIN ON THE USE OF HYPNOTICS.

Dr. M. S. Genkin, of Kaluga, lays down (*Proceedings of the Kaluga Medical Society*, Nov. 30, 1885, p. 42) the following rules for the use of various hypnotics in treatment of sleeplessness.

1. *Sleeplessness from psychical excitement of the brain, or so-called 'psychical hyperæsthesia from moral causes.'*—As a rule, the removal of causal influences and the administration of bromide of potassium prove successful. When the bromide remains inactive, morphia must be given to an anæmic patient, and ether, chloral, or paraldehyde to a strong one. In the latter, morphia is contra-indicated, since it would only increase 'psychical hyperæsthesia' in him, and may even give rise to acute delirium.

2. *Sleeplessness from pain sensations in peripheral nerves.*—Remove the cause; when the latter is unremovable, the best means is a hypodermic injection of morphia.

3. *Sleeplessness from the rise of temperature and cerebral hyperæmia in febrile cases.*—The best treatment consists in giving paraldehyde, in the dose of from 20 to 40 grains. The latter quantity of the drug induces quiet sleep of from four to six hours' duration. Dr. Genkin, generally, thinks highly of paraldehyde, which, according to his extensive trial, is as effective as chloral, and does not produce any unfavourable influence on the heart. In the first period of febrile diseases—that is, before high temperature has produced fatty degeneration of the cardiac muscle and blood-vessels, chloral also may be used.

4. *Sleeplessness from cerebral congestion, depending upon an irregular cardiac action in cases of fatty degeneration, or organic defects of the heart, arterio-sclerosis, &c.*—Paraldehyde should be given. Chloral is strongly contra-indicated even in small doses. Preparations of opium and morphine are also out of place.

5. *Sleeplessness from intense anæmia of the brain.* Subcutaneous injection of morphine, or aqueous extract of opium, a glassful of wine or beer or aquavitæ (*vodka*) internally, and warm applications to the head, are the best means in the form of insomnia in question. Chloral and paraldehyde remain here entirely inactive.

5. *Sleeplessness from alcoholism.*—In absence of arterio-sclerosis, &c., the best remedy is chloral. Otherwise paraldehyde should be administered. Dr. Genkin emphatically advises the utmost caution and discretion in the administration of hypnotics, since sometimes even relatively small doses of an unduly used drug of the kind may produce disastrous effects.

For the sake of illustration, he adduces two instances of the use of chloral in patients with arterio-sclerosis. In one of them, two 15-grain doses were given, one at bedtime, another at noon on the next day. In the evening, after the second dose, the patient suddenly died from paralysis of the heart. Another patient self-administered three 10-grain doses of the drug, at three hours' intervals, and made only a narrow escape. According to the author, chloral and bromide of potassium are used in Russia in truly enormous quantities. Indeed, 'bromide of potassium has become almost a food-article in every Russian home.' V. IDELSON, M.D.

ARTICLE 6208.

INTOXICATION WITH ETHER.

AT a meeting of the Medical Society of Paris (*Annales Médico-psychologiques*, September 1886), Dr. Jules Christian described a curious case of dipsomania. Instead of alcohol the patient was in the habit of intoxicating himself with ether. X—— was the son of a high official under the second empire. He was born in 1850. His mother was a woman of great intelligence, but very nervous. X—— was tall, but ill-made, with a small head. He was of poor intelligence, but very carefully educated, and took on a varnish of religion. In the war of 1870 he was attached to the ambulances, where he acquired a taste for the stimulus of ether. After this he went to the School of Law, where he was thought an original. He involved himself in foolish expenses, and in 1874 was sent to a private asylum on account of impulsive monomania, with a tendency to intoxicate himself. In confinement he soon recovered his usual health. Then new attacks followed one another with desperate monotony. He soon became very well known to the physicians, police, and magistrates under the name of the 'ether man.' In general the attacks commenced with a feeling of distress with loss of appetite, weight in the epigastrium; he was anxious and irritable, and complained of palpitations of the heart. Then he must have ether. If he had money he would go and buy a flask, hail a cab, in which he would establish himself comfortably, and inhale his favourite stimulant. Then he would become gay, sing, laugh, get out of the cab, joke with the driver, to whom he would give money to get drink. Then he would go into a café and talk to the people in a sportive way. Sometimes his extravagance would go no further, but generally he continued the inhalations until he became furious. Then he would fight with the cabman or the passers-by, strike out at random until collared and overpowered, when he would be taken to the nearest station. Similar scenes took place more than a hundred times. By the advice of Legrand du Saulle it was arranged that he should be put on board a passenger ship. The captain was charged not to let him land when the vessel came into port. In this way he remained sober for ten months, but he escaped at Valparaiso, whence the French Consul sent him home. The same series of events then recommenced. He was confined sometimes for weeks, sometimes for months; then he went to London, then to Brussels, Bâsle, Geneva, and Lausanne. Everywhere he got into trouble, was arrested by the police, and passed from the prison into the asylum. The peculiarity was that he preferred ether to wine or spirits, but rather than want excitement he would drink eau de Cologne. Dr. Christian thinks that, as far as this observation goes, it proves that the prolonged action of ether is much less hurtful than that of alcohol, for he did not observe, after the disappearance of the acute attack, any of those chronic symptoms which follow habitual drunkenness from alcohol. X—— died in the asylum at Milan from epileptiform convulsions probably following upon meningitis.

At the end of his distressing narrative Dr. Christian raises the question so often made concerning the custody of dipsomaniacs. Here is a man who hundreds of times intoxicates himself, makes a disturbance, injures anyone with whom he may come in contact, and thus falls into the custody of those who know best how to take care of him. In a few days he recovers his mental equilibrium and is then set free, everyone being perfectly sure that he will repeat the same offence in a few days. According to the state of the law in the different countries in which he figured, X—— was imprisoned or put into an asylum to punish or ward off attacks which were the inevitable results of a longing for intoxicants which he could not refuse to himself. When the disease arrives at such a stage the patient should be detained for life in an asylum, both for his own protection and that of society. WILLIAM W. IRELAND.

ARTICLE 6209.

CANTANI ON THE POISON OF CHOLERA-BACILLI.

THE *Deutsche Med. Wochensch.* (No. 45) gives an address of Professor Arnaldo Cantani, of Naples, at a meeting of the Scientific and Medical Association in Berlin, of which the following is an abstract.

As to the origin of choleraic poisoning, there are several possibilities. 1. It might consist of a ptomaine which poisons the blood, and due to change in the substance of the bacilli, either in the contents of the intestines or even in the intestinal walls. 2. It might be that the bacilli give off by secretion a particular poison which enters into the blood. 3. The cholera-bacilli may be in themselves directly poisonous, as so many fungi are.

After many careful experiments in dogs, Cantani came to the conclusion that most probably cholera-bacilli are in themselves poisonous, and that, after they have perished in the intestinal canal, their action is similar to that of poisonous fungi, and there seems to be the same difference of susceptibility to this poison as to that of fungi in different individuals. This theory would explain how it is that in some very pronounced cases only a few comma-bacilli are found in the intestinal canal, it being probable that from hitherto unknown causes they have perished, and have been digested and absorbed by the blood. From all this the following therapeutic indications may be deduced. 1. To prevent the multiplication of bacilli in the intestinal canal; and 2, to further the elimination of the poison from the blood. On the first point it has unfortunately to be admitted that disinfectants in strong enough doses to be of any use in this direction would also injure the human organism, while hydrochlorated lemonade and calomel have failed. In general it is advisable to administer drugs through the rectum, in order firstly not to interfere with the digestive power of the stomach, and thus to postpone vomiting as long as possible. The fact that tanners enjoy comparative immunity from cholera led Cantani to try the effect of tannic acid. This was introduced high up into the intestines by means of a particular form of clyster-tube. By this means the ileo-cœcal valve can be forced in most cases, and thus the fluid be introduced into the small intestine, where the cholera-bacilli chiefly have their colonies. This fluid is a solution of from 3·0 to 5·0 or 10·0 grammes of tannic acid, in from two and a half to three and a half pints of water, sterilised by boiling, and injected at a temperature of 38° C. or 39° C., or, in exceptional cases of algidity, 40° C. Often from 30·0 to 50·0 grammes of gum arabic and ten to thirty drops of laudanum liquidum were added if the diarrhœa was too frequent or copious. Even 20 grammes of tannic acid to three and a half pints of water may be used. The effect is astonishing. After each application, the diarrhœa, even when it has been frequent, ceases for six, eight, or twelve hours. After each attack the hot tannin clyster is repeated. In most cases of premonitory diarrhœa four or five applications suffice to stop it altogether, and thus to prevent the choleraic attack. In a few cases one application was all that was required. The sooner this treatment is resorted to, the better. When choleraic diarrhœa has lasted some days, the symptoms of choleraic poisoning cannot be prevented by this method, but may be somewhat alleviated. It must be borne in mind that generally a few minutes after the enteroclysis, the patient voids one-third or even one-half of the injected fluid, so that what remains in the higher intestinal loops is that which has the beneficial effect. Hence it is of the utmost importance that the application should take place soon after an attack of diarrhœa. On an average, from three to six applications in twenty-four hours are sufficient.

It has been found that 1 per cent. tannic acid, at a temperature of 37° C., completely destroys comma-bacilli cultivated in bouillon in an hour and a half, and that in the strength of ½ per cent., at 37° C., it in six hours destroys most of the bacilli, or at least paralyses their vegetative activity. It is therefore evident that tannic acid exercises a disinfecting and destructive action on cholera-bacilli. At the same time, it is not dangerous to human life as other disinfectants are. But the treatment possesses also other positively beneficial properties. By its high temperature the fluid stimulates the intestinal canal into activity and restores its circulation; it gives warmth to the organisms threatened with rigidity better than any hot baths; it thus excites and strengthens the threatened action of the heart, and, in addition, acts locally on the intestinal mucous membrane as an astringent, causing contraction of the relaxed vessels and lessening the watery secretion, and thereby also the loss of water, salts, and albumen. It also limits the falling off of the epithelium. And in all this it has the advantage over boric acid and sublimate solution recommended by Koch.

Further, as to the second point, the elimination of the cholera poison from the blood, it seems that this is best secured by hot hypodermoclysis of salt water. This was first tried in 1884 by Cantani's assistant, Dr. Perli, with the surprising result of nearly instantaneous resuscitation, followed by speedy and complete recovery of a patient who had been given up. Cantani computes that by this means the mortality in the worst cases of cholera was reduced by one-half. Generally speaking, it may be asserted that in certain cholera patients who have lost much water by profuse serous diarrhœa, the danger from inspissation of the blood is greater than from the poisoning itself. Hypodermoclysis has effected wonderful recoveries of patients, unconscious and evidently dying, by remedying inspissation of the blood. But against blood-poisoning it is not so successful. But even here it has its value, for it is the most rational and most practical method for promoting the elimination of the cholera poison that has accumulated in the blood, the tissues, and particularly the nerve-centres. And in as far as blood-poisoning is more or less connected with inspissation of the blood, the hypodermoclysis has thus a double importance. Another advantage is that it causes no disturbances. The trocar used must be disinfected over the fire. The effect is so rapid that a patient who has been unconscious, cold, cyanotic, and shrivelled up, can often, a few minutes after the operation, sit up and speak in a loud voice, the body performing all its functions. Where death occurred after several operations, it was always some days later, probably from falsely so-called cholera-typhoid, in which blood-poisoning is caused by the entrance of body substances (genuine ptomaine, &c.) into the blood, rather than by primary cholera poison.

Cantani injects simultaneously on both sides of the abdominal region under a costal arch from ¾ to 1½ pints of the fluid. The rapidity and the quantity of the injection are regulated by taps. The operation recommends itself by its simplicity.

JOHN ELLIOTT.

ARTICLE 6210.

RICHARDSON ON DISEASES INCIDENT TO PUBLIC LIFE.

In the *Asclepiad*, Oct. 1885, Dr. B. W. Richardson contributes a paper on diseases most common to public life. These are almost entirely those which affect the bodily organisation through the mental surface. 'They are the results, either of intense shocks driven through the senses from without and deranging the molecular or molar construction of surface; or of persistent friction between the immutable spirit, flowing in regular tides into the mutable flesh, and preventing its repose for efficient repair of its structure; or of persistent friction on one particular centre of the mental surface, with failure of it and of all parts subordinate to it as a centre of power.'

The diseases incident to the series of induced changes by mental shocks are most developed in emotional and animal-emotional men. The shocks tell in them, through the sympathetic nervous organisation, on vital organs, and especially on the heart. Sometimes the heart becomes too powerful for the body, when the excitement of political life commences in early life. The heart, in fact, becomes an uncontrollable organ. The man becomes excited by fits and starts; he is very violent for a time, but on slight opposition he sits quietly down, only to soon get up again, and thus he goes on repeating the act, until he becomes a perfect impediment to those engaged with him in business. Men of this kind sink into disease of the brain, or die suddenly from apoplexy. Others receive a blow not sufficient to kill, but become paralysed. In another class, the process of change is more gradual; the danger is seen in time, and the patient is advised to retire from the public arena into a quieter sphere of life, by which means he may live on for many and often useful years; but often these men go on too long, and retire only to spend the remainder of their lives with shattered health.

One disease which is common to public men, and which springs originally from nervous injury, is diabetes. Many members of the House of Commons suffer from the late hours they are obliged to keep, and from want of sleep; whilst a few, who can sleep whenever they have a chance, get on very well, and astonish the world by their incessant labour. With regard to hereditary tendencies, the would-be legislator need not trouble himself except on one score, and that is insanity. The man who knows himself to be afflicted with that taint is doing the first insane act when he throws himself into the political arena.

RICHARD NEALE, M.D.

ARTICLE 6211.

BRYANT ON THE VALUE OF EXPLORATORY OPERATIONS.

IN the *Lancet*, November 1886, pp. 909 and 962, Mr. Thomas Bryant gives an address on the value of exploratory operations in the practice of surgery. These operations are of value for *diagnostic* as well as *curative* purposes. To cut into a growth the nature of which can only be told with certainty after an incision into its substance, and which, if of a cancerous kind, cannot be too early removed, is a scientific, conservative, and sound proceeding. To apply this practice to tumours of the mamma is most essential, and it has saved many a breast. In diseases of the testicle it is hardly necessary to point out the wisdom of a like practice. Many cases of hæmatocele have been mistaken for malignant affections, and have been removed unnecessarily. In diseases of the joints it would be well if the operation of excision were, as a rule of practice, preceded by an exploratory incision. If this were done, it would be frequently found that no excision would be required, but by making a free vent for discharge, or by removing a piece of necrosed bone, the joint might be left to itself and a better result obtained than would have been produced by excision. In abdominal, renal, vesical, and pelvic surgery, the value of exploratory operations is best shown. Suppose a surgeon is called to see a patient with every symptom of acute strangulation of the intestine, while there is no external evidence to verify the diagnosis. Is he to wait for symptoms to turn up, or to set about an exploratory abdominal incision at once? The author decidedly considers that an incision should be made, and that the case should not be left for the effect of drugs to be watched, or for further symptoms to show themselves. By making an incision, one will find out the cause of the strangulation; perhaps a band is present; or there is an internal hernia; or a volvulus; or an intussusception. Again, should an acute peritonitis be present, and its cause obscure; should some deep-seated abdominal or pelvic suppuration exist, and its true position be only guessed at, then an exploratory operation is the best thing that can be done for the patient. Several cases are mentioned, but the following will illustrate how important it is to perform an operation in these obscure cases. A girl, aged 11 years, was suddenly taken ill in November 1884, with high fever, furred tongue, and intense pain in the right iliac fossa. She was attended by Dr. Hubbard, and recovered sufficiently to get up and run about, but similar attacks occurred during the next nine months. In October 1885, another attack occurred, associated with pain and tenderness, more in the right lumbar than the iliac region. When Mr. Bryant saw the patient on Oct. 17, he was certain that there was deep-seated pus somewhere, and decided to operate. Next day an incision, above and behind the crest of the right ilium, evacuated two or three ounces of fœtid pus and with it came a puff of wind. The abscess was supposed to have some connection with the cœcum; the opening was enlarged downwards in front of the anterior iliac spine so that the cavity could be washed out with iodine water and a drainage-tube put in. After this the fever abated, but the abscess would not heal. Some two months later Mr. Bryant was probing the wound and thought he felt a hard body. On Jan. 26, 1886, a hardened orange pip passed from the sinus, and in three weeks the child was well. In cases of *chronic* obstruction medical treatment should have the first place, so long as no local cause can be made out by rectal examination, but when a stricture is detected the line of treatment is to operate. Many cases, however, are met with in which every symptom of mechanical obstruction is present, but because digital examination of the rectum fails to find the exact seat of the obstruction, the operation of colotomy is put off, and then usually the case ends rapidly from a perforation taking place. It is in these cases that Mr. Bryant strongly condemns the practice of waiting, and insists on an exploratory incision into the right or left lumbar region, according to circumstances, to give the patient relief by a colotomy, when minor measures have been tried without relief. The author here describes a marked improvement in the operation of colotomy, by a method he has adopted in quite twelve cases during the last two years. It is only applicable where there is no great urgency for the operation. Having divided the abdominal parietes, with the oblique incision, and exposed and caught the bowel, a knuckle of intestine is brought out by a careful loosening process, and fixed *in situ* with two long hare-lip pins with flat heads, introduced through the integument forming the upper lip of the wound. The ends of the pins are covered with cork; even if the intestine be full of fæces or flatus, nothing escapes where the pins are passed. The whole wound is then washed with iodine water, and plenty of iodoform (one part) and boric acid (three parts), finely powdered, is thrown in with a puff-ball. The wound is now stitched up in front and behind the projecting bowel, leaving an opening for drainage at the posterior angle, into which a strip of iodoform gauze is inserted if the patient is thin, but if fat a drainage-tube is used. The whole wound is then covered up with iodoform gauze dipped into a mixture of terebene (one part) and olive-oil (three parts), a good sheet of Gamgee tissue and a bandage fixing the whole together. On the third, fourth, or fifth day, when the bowel has become perfectly adherent to the outside parts, the pins are removed and the bowel laid open. If the soft parts about the penis ulcerate, these should be taken out sometimes as early as on the second day; but, even if this is necessary, it will be found that sufficient adhesions have formed to prevent the bowel from falling back. The author considers the operation of enterotomy applicable to cases of strangulation in which the risk of laparotomy is rejected as being too hazardous, or where, on account of the age of the patient, any severe measure must be set aside; to cases of abdominal obstruction in which the clinical evidence points to obstruction high up in the colon, or low down in the small intestine; to cases in which laparotomy is inapplicable and colotomy is out of court; to cases of obstruction in which relief is urgently required, and a more exact method of giving it is not clear, either from some difficulty of diagnosis or some other cause. It is an operation which often gets a patient as well as the surgeon out of a perplexity, and is not difficult. Exploratory operations in cases of suppuration of the kidney, in cases of suspected renal calculus, or in examples of growth in or about the kidney, are of somewhat modern origin, and have been crowned with great success. In cases of suppurating kidney the author states he has not been yet tempted to excise that organ, and believes it is only necessary in very exceptional cases. The lecture concludes with a few remarks on operations on the cranium and its contents. Recent observations have proved that in *exceptional* cases a diagnosis of a tumour can be made with sufficient accuracy to justify a surgeon in cutting down upon and trephining a skull in search of a tumour with the view to its removal; but it has not been proved that these operations can be performed without great risk, nor can considerable portions of brain be removed without injury. In the Guy's Hospital Reports for 1886, Dr. Hale White has published an analysis of 100 cases of cerebral tumour, with reference to operative treatment, cause, mode of death, and general symptoms; it would be well for every surgeon to carefully study this analysis, to give ballast to any judgment which might otherwise possibly be over-stimulated by the brilliant successes lately achieved by Professor Victor Horsley.

RICHARD NEALE, M.D.

ARTICLE 6212.

GRÜTZNER ON SALIVA SECRETION.

IT is well known that the salivary glands, particularly the glandula submaxillaris of the dog, only secrete saliva when the glandular nerve is irritated, either in the natural way or by electric currents (*Deutsche Med. Wochensch.*, No. 37, 1886). Secretion ceases with the irritation. The more remarkable is, therefore, Cl. Bernard's discovery, that a submaxillary gland again begins to secrete a few days after the secretory nerves have been severed, and that this paralytic secretion, as it has been called, continues for weeks. This secretion of, by the way, very watery saliva, begins some days after the cerebro-spinal glandular nerve (chorda tympani) has been severed in its course, goes on increasing for a week without becoming very profuse, and then gradually ceases. If the sympathicus be also severed, there is scarcely any change of the symptoms, but if it alone be severed, no such results fellow. After a while the paralysed gland diminishes in size and assumes a yellowish colour.

These unquestionable facts are thus explained by Heidenhain, that probably the secreted matter, stagnating in the gland, undergoes decomposition, and, thus irritating the glandular substances, produces and sustains secretion; for mere ligation of the duct of an active gland causes similar spontaneous activity. Langley has recently approached this subject (*Journal of Physiology*, vol. vi., p. 71), giving his experiments on dogs and cats. Three days after severance of the chorda, paralytic secretion takes place, saliva flowing from the gland not operated on as well. This sympathy, observed also by Heidenhain, Langley terms antiparalytic, or, shortly, antilytic secretion. It is observed, also, in other copulated glands, such as the mammal and seminal. Apnœa, artificially caused by inflating the windpipe, puts a stop to paralytic and antilytic secretion, while dyspnœa, caused by stopping the windpipe, stimulates both. If the sympathicus be now severed on the paralysed side, dyspnœa has no effect whatever on this gland. Therefore the irritation of the venous blood must have affected the central ends of the sympathicus in the medulla oblongata, and not its gangliated extension in the gland nor the glandular cells themselves. In this class of paralytic secretions the irritation is indirectly conveyed to the glands through the sympathicus. Pilocarpine alone, it seems, directly affects the glandular tissue, for it causes the gland to remain active even after both secretory nerves have been severed.

If the animal (a cat) be examined thirteen days after the chorda has been severed, all is changed. The paralytic secretion is inconsiderable. Dyspnœa stimulates greatly the activity of the paralytic, but less that of the normal, gland, which answers normally to the physiological irritation of tartaric acid applied to the mucous membrane of the mouth. If, now, the sympathicus on the paralysed side be severed, it has no effect on the gland; for dyspnœa, which before stopped secretion after the severance of the sympathicus, now produces such secretion. It is, therefore, evident that now the irritation is no longer conveyed to the gland by the sympathetic channel, but directly to the glandular tissue, *i.e.* the ganglia in the latter are immediately irritated by the venous blood, while a gland whose secretory nerves have been quite recently severed are not stimulated into action by dyspnoic blood. Large doses of chloroform stop this paralytic secretion. Thus, in the later stages of paralytic secretion the gland may be said to become independent of the central nervous system, and assumes a different degree and kind of irritability.

Forty-two days after severance of the chorda, matters are so far altered that the paralytic secretion has nearly ceased and antilytic secretion has completely disappeared, while dyspnœa stimulates both glands into activity.

From this Langley concludes that the first stage of paralytic secretion is produced by an increase of excitability in the *cerebro-spinal* secretory centre, extending to both glands (paralytic and antilytic secretion), and perhaps arising from irritations running towards the centre from the point of incision. The second stage, on the contrary, is explained by the increased excitability of the *peripheral* ganglion-cells of the gland, which would account for the uncommonly tardy degeneration of the fibres of the chorda; for the peripheral termination of the chorda is excitable for thirteen days after its severance, while a motor nerve, whose transition into its muscle takes place without the interposition of ganglion cells, loses its excitability in only a few days. In this the motor nerves resemble the secretory nerves of the sudoriparous glands. According to Langley, the cause of the second stage of paralytic secretion is to be sought in the peripheral lower ganglion-cells of the salivary glands, and not, as Heidenhain asserts, in the irritating effect of engorged saliva. The process, however, still remains a riddle. The essential elements of saliva are water, organic substances (mucus, albuminates), and inorganic substances (salts).

According to Merkel, the tripartite nature of the secreted substances finds a counterpart in the component elements of the different glands. Thus the salivary glands are composed chiefly of (1) the alveolar cells, (2) the so-called intercalary portions covered with epithelium, and (3) the excretory ducts, with a peculiar high and beautifully-marked cylindrical epithelium, which undergoes remarkable changes in the various stages of glandular activity. The first are said to secrete the organic specific component parts, the second the water, and the third the lime-salts, and probably also the other salts, since the epithelium reacts in a peculiar manner with pyrogallic acid. According to the relative quantities of these three component parts of the glands will be also the composition of the secreted matter—*e.g.* if the intercalary portions are in preponderance, there will also be a preponderance of water; and if the salivary tubes are the most prominent, there will be a larger secretion of salts.

But Werther has found that this theory of Merkel's does not stand the test of careful examination, and he confirms Heidenhain's thesis, that on increase of irritation there is not only an acceleration of the secretion of water, but also in even a higher degree of the solid, organic, and inorganic elements of the secreted matter. Finally, on examining the increase of the elements singly it appeared that the soluble salts kept pace with the organic elements, which was not the case with the insoluble salts. All this shows how complicated is the activity of the secretory, and, indeed, of all cells.

John Elliott.

Article 6213.

DAREMBERG ON SEPTICÆMIA IN RABBITS.

At a recent meeting of the Biological Society M. Daremberg made the following statement concerning septicæmia in rabbits. This disease is produced by the inoculation of tuberculous matter (lungs, ganglia) taken from dead bodies during the heat of summer when there is slight putrefaction. Rabbits thus inoculated die after an interval of twenty-four to forty hours. Septicæmia is inoculable by means of subcutaneous, peritoneal, or venous injections, and also by trephining. Some hours before death the animal loses all desire for food, is in a panting condition, and is depressed. It is attacked by diarrhœa and convulsions; it cries out, drags itself painfully along between the convulsions, is paralysed in one or more of its limbs. Sputum, mixed with blood, issues from the nostrils and mouth. The animal is rarely struck down without exhibiting the preceding symptoms. Necropsy reveals sero-sanguineous infiltration in the areolar and connective tissues, round about the spot where the inoculation was practised; ecchymoses, slight capillary hæmorrhage on the surface of the intestines; areas of pulmonary apoplexy, hepatic infarcti; the spleen enlarged and black, occasionally serous or fibrinous effusion in the peritoneum and pleura; large blood-clots dispersed about, but more especially in sinuses of the dura mater and pia mater; occasionally slight meningeal hæmorrhage, or, in some cases, encephalic and medullary pachymeningitis. These clinical and anatomo-pathological symptoms are in accordance with those described by M. Koch in cases of experimental septicæmia in rabbits, with those described by M. Charrin in cases of septicæmia produced by deteriorated blood in anthrax, and with those by M. Pasteur in cases of disease inoculated by means of the microbe of saliva. M. Daremberg states that the spinal marrow from his rabbits, whether fresh or dried during twenty days, causes death in rabbits at the end of twenty-four to forty hours. From the twentieth to the twenty-fifth day of desiccation the toxic properties diminish in strength, and the medulla only kills the animals after three or five days have elapsed. When the twenty-fifth day of desiccation is reached, the medulla does not generally kill the animals, but they are ill for two or three days (loss of appetite, depression). It was observed that in two cases the caudal extremity of the spinal marrow after only eighteen days' desiccation did not kill the animals. After ten transmissions from one rabbit to another, the medulla kills the animals in five hours, and at this juncture the disease becomes an epidemic, and kills nearly all the animals in close vicinity. Medulla dried in oxygen kills rabbits twice as rapidly as medulla dried in the open air. Air at 55° C. (131° F.), nitrogen, carbonic acid, mercury, vapours at 15° C. and 55° C. (131° F.), those of osmic and cyanhydric acids, of pyridine, of iodure, of ethyl or amyl, of benzine, of turpentine, of sulphur, of carbon, of thymol, paraldehyde, methylated spirits, acetic ether do not diminish the toxic properties of the medulla. Iodoform, phenol, and ammoniac vapours delay the death of the animal one or two days. Vapours of chloral, chloroform, aldehyde, amylic alcohol, sulphuric ether, sulphurous acid, and sulphuric anhydride destroy all toxic influence in the medullas when they are allowed to dry in an atmosphere impregnated with these substances during four or five days. The same result is obtained by means of nitrous vapours or those of chlorhydric acids, which reduce the medullas to a pulp. The blood and all the organs of animals that have died from this infectious disease contain an ovoid micrococcus, which may be cultivated in veal broth and in gelatine. The latter is not liquefied. The micrococci are occasionally dispersed in small rows, or in zooglœic clusters, rarely in twos or fours; but these conditions are not constant, and the successive cultivations in broth and gelatine present sometimes one aspect, sometimes another, and often a variety of aspects. The toxic action of this micro-organism is always the same, and is equal to that of the fresh medullas. These cultivations preserve their virulence at 55° C. (131° F.). Towards the seventeenth day they become less toxic, and only cause death in four or five days, and in some cases are inert. The second cultivations are less virulent than the first; both coagulate milk. These properties prove the analogy of this micrococcus with that described by M. Pasteur, of which the first cultivations die in fifteen days, and the successive ones gradually fall away. They differ from the properties of the microbe described by M. Charrin, of which the cultivations die at 45° C. (113° F.), and of which the second cultivations are as virulent as the first.

M. Daremberg has attempted the Pasteur method of successive inoculations, but without positive results. The absolute method of vaccination for this form of the septicæmia has yet to be determined.

W. VIGNAL.

SURGERY.

RECENT PAPERS.

6214. KÖNIG.—On a new Rhinoplastic Operation. (*Archiv für Klin. Chir.*, Band xxxiv., Heft 1.)

6215. KÖNIG.—Improved Operative Methods of Exposing the Kidney. (*Centralbl. für Chirurgie*, No. 35. 1886.)

6216. REDARD.—On Ephemeral Glycosuria in Surgical Practice. (*Revue de Chirurgie*, August and September.)

6217. HOUZEL.—The Treatment of Housemaid's Knee. (*Revue de Chirurgie*, September.)

6218. ANDEREGG.—The Radical Cure of Hernia. (*Deutsche Zeitschrift für Chirurgie*, Band xxiv., Heft 3 and 4.)

6219. LAGRANGE.—Wounding of the Diaphragm in Operations for Empyema. (*Archives Générales de Médecine*, September 1886.)

6220. TERRILLON.—On Tonsillar Calculi. (*Archives Générales de Médecine*, August 1886.)

6221. GARRÉ.—The Operative Treatment of Goître. (*Centralblatt für Chirurgie*, No. 45, 1886.)

6222. NIKOLSKY, D. P.—On the Reduction of Incarcerated Scrotal Hernia by Means of Elastic Bandage. (*Vratch*, No. 35, 1886, p. 630.)

6223. JANSEN.—On a Case of Fibroma Coli Transversi. Treated and Cured by Resection of the Bowel. (*Proceedings of the Riga Medical Society*, April 16, 1886, p. 437.)

6224. JANSEN.—On a Case of Cholecystotomy. (*Proceedings of the Riga Medical Society*, April 16, 1886, p. 437.)

6225. KOLÈTCHITZKY.—On the Operative Treatment of Suppurative Pleurisy. (*Proceedings of the Kaluga Medical Society*, April 6, 1885, p. 8).

6226. ILINSKY, N.—On Reunion of Cut-off Parts. (*Vratch*, No. 29, 1886, p. 538.)

6227. VOINO.—On a Case of Gastrostomy. (*Proceedings of the Odessa Medical Society*, Nov. 30, 1885, p. 51.)

6228. SOUTHAM.—A Case of Suprapubic Cystotomy for Tumour of the Bladder. (*Brit. Med. Jour.*, October 1886.)

6229. WAINWRIGHT.—On Abscesses of the Neck and behind the Pharynx. (*Lancet*, October 1886.)

6230. STEVENSON.—The Treatment of Varicose Veins. (*Lancet*, October 1886.)

6231. CANTLIE.—A Case of Amputation for Senile Gangrene at the age of 82. (*Brit. Med. Jour.*, October 1886.)

6232. MILLS, DR. CHARLES K.—On Proper and Improper Methods of Performing Massage. (*The Polyclinic*, October 1886.)

ART. 6214. *König on a new Rhinoplastic Operation.*—In the *Archiv für Klin. Chir.*, Band xxxiv., Heft 1, Professor König describes a new method of rhinoplasty in cases of depressed nose, and reports four instances in which this method has been applied with good results. These cases, it is stated, prove that the surgeon may without difficulty bring back the turned-up tip of the nose to its normal position, and fix in the position of the depressed portion of the nose a prominent organ with a firm and elevated osseous support. The results thus attained are held to be persistent, as there had not been any change in the shape of the new nose after an interval of one year in one case, of two years and a half in another, and of three years and a half in a third case. The main feature of the operation consists in transverse section of the depressed nose, dragging downwards of the tip of the organ to its normal position, and apposition to the wound thus formed of two flaps taken from the forehead—one from the middle line, composed of skin and periosteum; the second from one or other side of the forehead, composed only of skin. The author acknowledges certain imperfections in this method of rhinoplasty, but anticipates that in course of time these may be removed. As it would be risky to make the median and periosteal flap too narrow, the bridge of the new nose is liable to be unduly expanded. Again, after this operation, there will remain a considerable elevation at the root of the organ, which is normally depressed. When the base of the nose is preserved, it should be remembered that there are certain defects in this part which it is very difficult—if not impossible—to remove. The soft parts are usually shrunken, the septum perhaps is wanting, the lateral cartridges are distorted, and the nasal orifices are unequal and irregular. The following are the steps of this operation. After careful disinfection of the nasal cavities and of the skin of the face, a long and narrow flap consisting of skin and of periosteum of the frontal bone is taken from the middle line of the forehead. Then from the right side of the forehead is taken a broader pedunculated flap of skin, the pedicle of which runs obliquely into the lower portion of the medium flap. The depressed nose is then cut across, the incision extending to the nasal cavity. The alæ of the nose having been partially detached from the cheek and the subjacent parts, the base of the organ is drawn downwards to its normal situation. Over the large chasm thus formed is placed—first the median flap, with its cutaneous surface towards the nasal cavity and the raw surface anteriorly, its free extremity being fixed by sutures to the upper raw margin of the replaced base of the nose. Over the anterior raw surface of this flap is placed the raw surface of the lateral and cutaneous flap, the lower edge of which is also fixed by sections to the margin of the base of the nose, and the lateral margins to the sides of the large wound, which is thus completely covered.

6215. *König on Improved Operative Methods of Exposing the Kidney.*—The *Centralbl. für Chirurgie*, No. 35, 1886, contains an original paper by Professor König, of Göttingen, on the retro-peritoneal incision and associated retro- and intra-peritoneal incisions, as methods of exposing renal swellings, especially those of inflammatory origin. This surgeon, aware of the occasional difficulty of attacking with success a diseased kidney through the old lumbar incision, has recently studied the contributions of V. Czerny, Thornton, Lauenstein, and others, on this subject, and has, by experiments on the cadaver and operations on the living subject, been led to advocate the following methods of incision. The kidney, it is stated, can be rendered freely accessible by an incision carried at first directly downwards, near the outer margin of the erector spinæ, from the last rib to a point a little above the crest of the ilium, and then directed upwards in a curved line towards the umbilicus as far as the outer margin of the rectus muscle or, if necessary, beyond this to the umbilicus. In some cases König thinks that it would be advisable to make the lumbar incision in an oblique direction, as recommended by Von Czerny, rather than in a perpendicular direction. The muscular layer of the abdominal wall is then cut through along the course of the incision, the anterior and curved part of this incision, including the latissimus dorsi, the oblique and transverse abdominal muscles, and a part of the rectus. If the surgeon should anticipate any difficulty in finding the retracted ends of the divided portions of these muscles in order to bring them together by sutures at the end of the operation, each end should immediately after section be traversed by a needle and suture. Although this incision will usually be found of sufficient extent, the diseased kidney may be still further exposed by the surgeon at the posterior perpendicular portion, detaching the peritoneum and pushing it forward with his hand. The above is called by König the retro-peritoneal lumbo-abdominal incision with stripping away of the peritoneum forwards. If the above described incision fail to give sufficient room, or if it seem desirable for certain reasons to attack, either for diagnostic or operative purposes, the tumour from the abdominal cavity, the peritoneum is to be divided along the course of the oblique anterior incision. This proceeding, as it opens up the abdominal cavity, must, therefore, be practised with some precautions in cases in which infectious material is likely to be discharged from the kidney or renal pelvis. It is recommended that before a suppurating kidney be removed, or a foul pyelo-nephrosis be opened, the oblique portion of the incision, or at least the rent in peritoneum be stitched up. This proceeding is called by König the retro-intra-peritoneal lumbo-abdominal incision. The author reports two successful cases, one of very large renal calculus, the other of suppurative pyelitis, in which the latter operation was performed with good results. In conclusion he considers the risks of imperfect closure of the large wound in the abdominal wall, and of subsequent abdominal hernia, and, with the view of preventing such results, insists on the importance of dividing the muscles in the direction of their fibres, of very careful and close apposition by numerous strong sutures of the divided margins of peritoneum, muscle, and skin, of the retention of sutures for three weeks after the operation, and of perfect rest of the patient in bed for at least four weeks.

6216. *Redard on Ephemeral Glycosuria in Surgical Practice.*—In the *Revue de Chirurgie* of August and September, Dr. P. Redard, of Paris, has reported several cases of ephemeral glycosuria observed in the course of certain surgical affections. This author, who insists much on careful and methodical examination of the urine by the surgeon, states that ephemeral glycosuria frequently occurs in surgical practice. It is in some instances accompanied by ephemeral albuminuria, and very often the albumen is replaced by sugar, and *vice versâ.* It is not rare to find that sugar appears in the urine several times in the course of the affection. From the author's experience, ephemeral glycosuria is almost always accompanied by transient polyuria and an increase in the quantity of urea. The quantity of sugar which is proportionate to the gravity of the case varies to a considerable extent in different cases. The surgical affections in which this complication has been observed are extremely varied. It was often noted after slight injuries and subcutaneous fractures, but occurs, the author states, much more frequently and, indeed, almost constantly during phlegmonous and gangrenous affections, anthrax, lymphangitis, and erysipelas, and presents itself in a most marked degree in a great number of cases of suppuration just at the time of the formation of an abscess. The author's cases show that there exists a decided relation between the formation of the pus and the appearance of the glycosuria. In nearly all the cases of phlegmon, erysipelas, and septicæmia, observed by the author, sugar appeared in the urine just as the temperature of the body was suddenly elevated. The affections in which ephemeral glycosuria has been most frequently observed are those of a septicæmic character. It is held that in the great majority of cases reported in this paper, the condition of the urine was a true ephemeral glycosuria analogous to the ephemeral albuminuria recently observed in the course of certain medical affections. There was no history of diabetes. Of many patients who were observed from time to time after cure of the surgical affections, not one presented glycosuria or any other sign of diabetes. It is necessary, however, in order to distinguish ephemeral glycosuria from true diabetes, to continue for some time the daily examination of the urine. In attempting to account for the appearance of sugar in the urine at certain times in the course of some surgical affections, the author suggests that the impression produced at the periphery by a cutaneous inflammation, or some other local morbid condition, might be transmitted to the vaso-motor fibres contained in the splanchnic nerves and so cause hyperæmia of certain organs, especially the liver and lungs, and accelerate the transformation of glycogen into sugar, thus giving rise to glycosuria. By this theory might be explained also the instances of ephemeral glycosuria and albuminuria that have been observed in the course of some medical affections and after irritation of the skin. Glycosuria, when occurring at an advanced stage of certain surgical affections in association with congestion of the lungs, might be considered as asphyxic and due to the phenomena of insufficiency of oxygenation of the blood. The author would rather admit that the asphyxic blood acts as an irritant and excites the liver to discharge a larger quantity of sugar into the circulation. This irritation may act directly on the liver, but more likely is transmitted by the great sympathetic or the vagi nerves from the cerebro-spinal nervous system. In concluding his paper the author states that these numerous theories might explain ephemeral glycosuria, but that none of them are entirely satisfactory and applicable to every case. Too much at present remains unknown for a complete solution of the problem.

6217. *Houzel on the Treatment of Housemaid's Knee.*—In a paper published in the *Revue de Chirurgie* for September, Dr. G. Houzel, of Boulogne-sur-Mer, discusses the principal methods that have been proposed for the cure of chronic prepatellar hygroma, or housemaid's knee. The method of puncture, followed by injection of iodine, may succeed, it is stated, in cases of small and recent hygroma, but for such growths simpler methods will be found efficacious, and it is not necessary to puncture the cyst and thus to expose the patient to the evils that may result from a too severe reaction, and may even lead to purulent arthritis. In cases of large hygroma of long standing, the walls of which are always more or less thickened and resistent, puncture and injection will be found either useless or capable of producing a cure by nothing short of suppuration, which ought to be avoided, and which, if thought indispensable, can be produced by more certain and less dangerous means. The method of drainage, which has been seldom practised, is intended to effect cure by causing suppuration and producing granulations, the proliferation of which results in adhesion of the walls of the cyst. This method, Dr. Houzel holds, is not applicable in cases of hygroma. It is slow in its action and dangerous. In a case thus treated by Chassaignac, drainage caused purulent arthritis, and the patient died from purulent infection after amputation of the thigh. Crucial incision and partial excision, both of which methods effect a cure by suppuration, are justifiable in cases of suppurating hygroma if practised under antiseptic conditions, but are too dangerous to be adopted in the treatment of simple cases. In the rare cases in which crucial incision is indicated, this method, it is suggested, might be followed by scraping of the inner surface of the cyst. If antiseptic precautions be taken, suppuration may be prevented, or at least restricted. A large portion of the pouch, if not the whole of it, would then be closed by either primary intention or secondary immediate reunion. Partial excision is rejected as being an incomplete operation that exposes the patient to all the dangers of crucial excision without affording any of the advantages of complete extirpation. This latter method, practised under antiseptic conditions, is regarded as far superior to others. Dr. Houzel asks why the surgeon, in dealing with an old housemaid's knee with a thick and tough membrane, should hesitate to use the bistoury so as to extirpate the tumour and at once remove the disease. That the dissection is tedious is not a sufficient objection; with patience and skill this may be readily effected. As it is necessary to turn the edge of the bistoury towards the tumour in order to avoid wounding the adjacent soft parts, it is almost impossible not to cut into the wall of the sac at places where this is thin; the fluid then flows away, the cyst collapses, and the difficulties of the dissection are much increased. In such cases it is difficult to ensure removal of the whole cyst, and a small portion of the wall of the cyst may be left and compromise union by first intention. If the tumour were solid, this difficulty would not occur. In order to remove this unfavourable condition in the case of the cystic tumour, Dr. Pozzi has suggested a preliminary puncture and removal of the fluid, and then injection into the emptied sac of spermaceti melted in a water-bath at a temperature of 112° F. After some delay, which may be diminished by the application of a freezing mixture, the tumour has become firm and solid, and may then be readily removed. With the indispensable aid of a rigorous antiseptic method, and the useful, though not absolutely necessary, aid of preliminary injection of a solidifiable liquid, the surgeon may undertake with confidence the complete extirpation of chronic hygroma. Mild methods of treatment, such as blistering and compression, are, as a rule, quite useless and cause loss of time; and other operative measures, such as puncture, drainage, incision, and partial excision, ought, in the author's opinion, to be proscribed as being attended with as much, if not more, danger than complete excision, without possessing its advantages.

6218. *Anderegg on the Radical Cure of Hernia.*—In a contribution on the radical cure of hernia by operation (*Deutsche Zeitschr. für Chirurgie*, Band xxiv., Heft 3 and 4), Dr. G. Anderegg gives the following conclusions, based on a clinical study of 136 cases treated by Professor Socin, of Bâle. 1. Hernia may be cured by surgical operation. Success is the rule in cases of recent hernia, and the exception in cases of hernia of long standing. The smaller and more recent the hernia, the better are the chances of radical cure. 2. Radical cure is more likely to be attained in young and growing subjects than in adults, all other conditions being equal. 3. The chances of a permanent cure are diminished in cases of double hernia, and also in cases of a family history of hernia. 4. Habitual bodily exercise seems to favour the persistence of the cure. A chronic cough tends to cause relapse. 5. The probability of relapse becomes less with increased intervals from the date of operation, and is very small after an interval of two years. 6. The risks of the operation itself depend mainly on (*a*) the age of the patient, (*b*) the form and size of the hernia, (*c*) and the necessity for removal of omentum. 7. In young and middle-aged subjects, the hernia indicating treatment for radical cure is usually an inguinal one of recent date. The operation for such a form of hernia is justifiable when the swelling causes much trouble, and the more so when it is small and the patient young. Large herniæ in aged or diseased subjects are to be regarded as beyond the range of operative treatment. 8. In strangulated crural, as well as small strangulated inguinal, hernia, kelotomy ought to be performed without loss of time. The larger the inguinal hernia the less unjustifiable is it to repeat taxis. If there be no positive contra-indication, herniotomy should be followed by an operation for radical cure. 9. The best method of operative radical treatment is double or multiple ligature of the sac as high as possible, followed by its extirpation. Whether, in inguinal hernia, it be better to drag the neck of the sac below the pillars of the external ring before ligature, or to open up the inguinal canal, is a point that remains to be settled. Apposition of the pillars of the ring is regarded as undesirable. 10. Adherent, hypertrophied, or degenerated omentum found in the sac ought, as a rule, to be removed, the stump being returned into the abdominal cavity. 11. So long as there is no return of the hernia after the operation, the patient ought not to wear a truss. The author holds that the pressure of the pad of a truss produces a circumscribed depression of the abdominal wall, which persists even after removal of the truss, and over the extent of which the subjacent peritoneum is relaxed and yielding. The percentage of relapses after operation for radical cure are, it is stated, much higher in those who have constantly worn a truss than in those who have worn one intermittently or not at all.

6219. *Lagrange on Wounding of the Diaphragm in Operations for Empyema.*—In a memoir communicated to the *Société de Chirurgie*, of Paris, and published in the *Archives Générales de Médecine*, of September 1886, Dr. Félix Lagrange, of Bordeaux, reports a case of empyema of traumatic origin, in which an incision in the eighth intercostal space on the left side was followed by fatal peritonitis, due to penetrating wound of the diaphragm. This risk in operations for empyema has not, the author thinks, been sufficiently insisted upon either in special treatises or classical works. The eighth intercostal space on the left side being that recommended by the majority of classical authors in operations for empyema, the author did not, in his case, think of the possibility of such an accident, more especially as the extreme abundance of the effusion led him •

assume that the diaphragm had been depressed and removed to some distance from the thoracic wall. On investigating whether—and, if so, under what circumstances—a like mischance had previously occurred to any other surgeon, the author succeeded in collecting five well reported cases in which the diaphragm had been wounded in an incision for empyema. In one of these cases a small portion of the fifth rib on the right side was removed, in two cases the sixth intercostal space was incised, in one case the eighth space, and in the fifth case the tenth space at the back of the chest. Other instances have been recorded of very probable wounding of the diaphragm during incision, and two decided cases in which the lesion was caused by a simple evacuatory puncture. According to the experience of those surgeons who have performed Estlander's operation of resection of portions of ribs, the diaphragm instead of being depressed and pushed back by the fluid effusion, as has been stated in classical works, presents, on the contrary, an exaggeration of its normal curvature. Just as in cases of chronic purulent pleurisy with a tendency to cure, the thoracic walls approach the surface of the lung in order to occupy the pleural excavation, so the diaphragm must be drawn towards the upper part of the chest and its immediate relations with the costal walls be thus considerably extended. Thus are formed the more or less extensive costo-diaphragmatic adhesions that have been observed by Bouilly and Kermisson during Estlander's operation. Certainly, the author points out, these adhesions are not of constant occurrence, and in cases of very abundant effusion, the diaphragm is often pushed down towards the abdominal cavity, the lung at the same time being pushed against the vertebral column, and the side of the chest much distended. Still it should be remembered that this depression of the diaphragm is not the rule, and that the frequency of costo-diaphragmatic adhesions, though not yet accurately established, is not less considerable. The author is of opinion that the diagnosis of these costo-diaphragmatic adhesions is impossible, or at least uncertain, notwithstanding the investigations on this point of Jaccoud and others. It is held that, in order to avoid the serious accident with which this article deals, the surgeon treating a case of empyema ought to admit this fundamental principle, that the opening into the thoracic cavity ought never to be made below the sixth rib. A very large majority of the classical authors regarded the eighth space on the left side and the seventh space on the right side as the seats of election, and Sedillot, insisting on the necessity of making the incision at the most dependent point of the chest, recommended incision of the ninth space. The thoracic cavity, however, does not empty itself like a barrel, but, as was pointed out by Guérin, the fluid flows away not so much under the influence of gravity as by reason of the pulmonary expansion which expels it. It is necessary, therefore, Dr. Lagrange concludes, to make a high incision. The fluid, in most cases, will flow away readily, and should the flow be insufficient, a counter-opening may be made on a director projected from within outwards without running any risk of injuring the diaphragm and peritoneum.

6220. *Terrillon on Tonsillar Calculi.*—In a memoir on the mischief caused by calculi of the tonsil (*Archives Générales de Médecine*, August 1886), Professor Terrillon gives the following clinical table of the troublesome symptoms that may be caused by the presence of calculi in the tonsils: relapsing angina, occurring at intervals more or less prolonged under the influence of uncertain or simple causes, accompanied by more or less marked œdema of the tonsillar region and surrounding parts, and terminating after the opening of an abscess and the discharge of some pus or of concretions of variable consistence. To these symptoms may be added others that can be made out by direct examination, as, for instance, swelling, lividity, and induration of the gland, the existence on its inner surface of a whitish prominence surrounded by ulceration, which is due to the presence of a calculus. In cases of frequently-repeated tonsillar suppuration in subjects who have passed beyond the period of childhood, the surgeon should be led to suspect the presence of a calculus, and should direct his examination in order to clear up this point. With regard to differential diagnosis, Terrillon states that the swollen and indurated tonsil may present all the appearances of scirrhous swelling, and, in a subject of advanced age, be regarded as the seat of malignant disease. The calculi, when exposed on the surface of the tonsil, may be readily recognised by their characteristic hardness and whitish aspect; but, when embedded in the gland, cannot be made out except by very careful digital examination and intense illumination of all the open cavities of the affected organ. The prognosis of calculous tonsillitis is not free from a certain gravity, as in some cases œdema of the neighbouring parts may give rise to disturbing symptoms of dyspnœa. In cases of small, soft, and caseous concretions, the treatment should be directed simply to the relief of the associated inflammatory symptoms, as foreign bodies of this nature generally disappear, together with the signs of the tonsillitis by which they have been produced. Hard concretions and true calculi ought to be removed, for, so long as they are allowed to remain, the patient will be subject to repeated attacks of angina. If the calculus be small and superficial, and projects into the mouth, it may be readily removed by means of a curette or of some pointed instrument. If the foreign body be large and deeply imbedded in the gland, or be surrounded and almost entirely concealed by fungous granulations, it will be necessary to make one or several small incisions into the margins of the enclosing cavity in order to open up a passage for the calculus, and to facilitate its extrusion.

6221. *Garré on the Operative Treatment of Goître.*—In the *Centralblatt für Chirurgie*, No. 45, 1886, Dr. C. Garré, of Bâle, assuming that total extirpation of the thyroid gland cannot at the present day be regarded as a justifiable operation, directs attention to a modified operation that has been performed for some years past by Professor Socin, and with very satisfactory results in about fifty cases. This operation, which consists in intraglandular 'shelling-out' of the degenerated portions of the gland, is similar in its mode of performance to procedures previously advocated by Juilliard, Rottmann, and other surgeons, but has a wider range of application, and is indicated in all cases of goître necessitating operative treatment. In a very large proportion of cases of goître submitted to operation, the disease of the gland occurs in the form of circumscribed masses, each of which is separated from the healthy and normally acting portions of the thyroid structure by a capsule of more or less thickness. If the surgeon in operating is able to distinguish clearly this natural limit, the procedure of 'shelling-out' is practicable, but there is a difficulty in making out this capsule with precision. If the diseased mass be situated near the surface of the thyroid, the covering layer of glandular structure presents the appearance of a very thin membrane. If this be left undetermined, and the dissection be commenced and carried on beyond it, more and more of the proper gland structure is removed, until at last, if the error be not rectified, the operation becomes one of typical unilateral, or even total removal of the gland. If, on the other hand, the diseased mass is deeply imbedded in the gland, it is necessary to work through a thick layer of very vascular thyroid structure before the boundary of the disease is clearly indicated by the presence of a bluish transparent capsule traversed by but few vessels. When this membrane can be distinctly recognised, the largest goîtrous mass can be readily shelled-out by means of the finger or some blunt instrument. The bleeding, though sometimes profuse, is simply venous. It is held to be an important point to keep close to the capsule, and not to begin the 'shelling-out' of the disease before this has been found. Unless this rule be followed, the surgeon is apt to dissect aimlessly in the midst of the gland structure and to produce much bleeding. Two or more goîtrous masses may be thus removed from a thyroid gland by one or more incisions without wounding of any large vessel. The bleeding, as a rule, is unimportant and mostly parenchymatous, and can usually be arrested by compression. The goîtrous deposit is not supplied directly by a large vessel, and presents no hilus. It is not necessary to take special precautions with regard to hæmorrhage, except in cases where it is necessary to divide a thick layer of healthy thyroid structure. The cavity left after removal of the disease is then drained. This operative procedure for the extirpation of goître is held to be free from danger. Serious hæmorrhage, especially of the secondary form, is not to be feared, as the large and important vessels supplying the vascular thyroid gland need not be disturbed. As the surgeon works with the knife within the gland, there is little, if any, risk of wounding the nerves of the neck. In not one of the fifty cases in which Professor Socin operated were any symptoms of tetanus observed. There need not be any fear, it is stated, of subsequent cachexia strumipriva. It is only the diseased and degenerated portion of the gland that is removed. The sound thyroid structure remains in its normal relations with the organism, and capable of performing what is evidently a vitally important function with regard to the central nervous system. The so-called cosmetic results are very much better than those of total or partial extirpation, since the natural fulness in front of the trachea and between the sterno-mastoid muscles is left. W. Johnson Smith.

6222. *Nikolsky on Reduction of Incarcerated Scrotal Hernia by Means of Elastic Bandage.*—In the *Vratch*, No. 35, 1886, p. 630, Dr. D. P. Nikolsky, of Krasnoüfimsk, relates the case of a strong muscular ironworker, aged 65, with a right inguinal rupture of twenty years' standing, which suddenly became incarcerated, and could not be reduced either by ordinary taxis, or by ether irrigations after Finkelstein's method, or by manipulations after warm baths. The man suffered greatly from pain and sickness. The author, who had been called to the patient about thirty hours after the strangulation, tried again taxis, as well as electrisation for half an hour, but did not succeed in making any impression on the swelling, which was as large as an infant's head. Before resorting to herniotomy, he resolved to give a trial to elastic bandage. The latter caused local pain, which circumstance induced the patient to remove the bandage in an hour or so. About ten minutes later, however, hernia disappeared spontaneously. [Five similar successful cases, communicated by Dr. Egoroff, may be found in the London Medical Record, October 1884, p. 431. In the *Vratch*, No. 44, 1884, p. 741, Dr. M. P. Jakovleff, of Professor N. V. Sklifosovsky's clinic in Moscow, contributes six cases of incarcerated oblique inguinal hernia (four seen by him in the clinic, one from Dr. D. A. Bryzgaloff's practice, and one from Dr. N. N. Znamensky's), in which, after taxis had failed, an elastic bandage was applied after Maisonneuve's method. In five the tumour was reduced in ten or twelve hours. In the remaining case the bandage failed to bring any relief, and herniotomy was ultimately performed. Discussing the use of Maisonneuve's method, Dr. Jakovleff comes to the conclusion that it is contra-indicated in cases—(1) where local and general symptoms point to gangrene of incarcerated intestine; (2) where the patient's urine contains considerable amounts of albumen; (3) in cases of incarcerated 'interstitial' inguinal hernia of Tillaux; and (4) in cases where elastic bandage gives rise to intense pain. Speaking generally, the longer incarceration has existed, the less successful results may be expected from the use of the bandage under consideration. At all events, when a ten hours' application of the bandage has failed to bring any improvement, reduction may be effected only by herniotomy.—*Rep.*]

6223. *Jansen on Resection of the Colon for Fibroma.*—Dr. Jansen, of Riga, reports (*Proceedings of the Riga Medical Society*, April 16, 1886, p. 437) the case of an anæmic married woman, aged 35, who, about eight months before her admission, noticed an egg-sized tumour situated close to the left costal arch. The swelling commenced to increase. Soon there appeared pain, gastric disturbances, constipation, loss of flesh, and weakness. On examination, Dr. Jansen found an easily moveable, painless, hard tumour, of the size of a man's fist, and performed a median laparotomy. The tumour proved to be situated within the transverse colon. A piece of the latter, measuring thirteen centimètres in length and containing the new growth, was excised. The abdominal wound rapidly healed through the first intention. On the fourth day the patient passed flatus; on the eighth, first stools followed, after citrate of magnesia. The tumour was found to be a fibroma, growing out from the submucous coat of the bowel.

6224. *Jansen on a Case of Cholecystotomy.*—Dr. Jansen, of Riga, details (*Proceedings of the Riga Medical Society*, April 16, 1886, p. 437) the case of a patient, aged 28, who for two years had suffered from pain in the hepatic region, and in whom, on examination, a tense elastic tumour (measuring 8 x 5 centimètres) was detected in the right hypochondrium. Having diagnosed dropsy of the gall-bladder, caused by gallstones, the author made an incision parallel to the right costal arch, cautiously opened and emptied the cyst, and sutured the edges of the cystic incision to the internal angle of the abdominal wound. The gall-bladder was washed out with a ½ per cent. salicylic solution. An incarcerated gallstone (measuring one cubic centimètre) was found in the neck of the gall-bladder, and removed. Rapid recovery followed, under an antiseptic dressing.

6225. *Kolëtchitzky on the Operative Treatment of Suppurative Pleurisy.*—Dr. Kolëtchitzky, of Peremyshl, details (*Proceedings of the Kaluga Medical Society*, April 6, 1885, p. 8) the case of a peasant who was admitted with symptoms of enormous purulent exudation in his right pleural sac, and was treated at first by paracentesis. Only about one pound of pus escaped through the cannula. No improvement followed. Two days later, an incision, nearly two inches long, between the ninth and tenth ribs along the axillary line, was made. On opening the pleura, pus was ejected in a forcible curved stream; about twelve fluid pounds were collected this time. The pleural cavity was washed out with a 2 per cent. carbolic solution, and two drainage-tubes as thick as a quill, each measuring seven inches in length, were introduced. Unfortunately, they were left unfastened. On the third day after the operation, both of the tubes disappeared within the chest-cavity. All attempts at their extraction through the wound remained vain. For the next nine days the patient's state steadily improved; he even got up and walked about the wards. But on the thirteenth day after the operation there suddenly appeared rigor and a rise of the temperature (39°·4 C.). On the next day a quantity of offensive pus escaped from the wound. After a fleeting improvement under washing out the pleural cavity with corrosive sublimate and carbolic acid, there developed intractable diarrhœa with night-sweats and progressive debility. The patient died at home about six months after the accident. No necropsy was performed.

6226. *Ilinsky on Reunion of Cut-off Toes and Fingers.*—Dr. N. Ilinsky furnishes details (*Vratch*, No. 29, 1886, p. 538) of two cases of the kind. A boy, aged 10, hacked off the second phalanx of his left great toe, the part remaining connected only by means of a thin bridge of the plantar skin. The patient being seen three hours later, the author disinfected the wound, sewed it with three sutures, and applied an antiseptic dressing. Complete union, with restoration of sensibility and fairly free movements, took place in thirteen days. Another patient, a tanner, aged 45, cut off the nail-phalanx of his left forefinger, the part being connected only by means of a very dirty and rough strip of palmar epidermis. The patient powdered his wound with soot and came to the author about five hours after the accident. The injury was treated as in the former case. On the third day after suturing the man managed to hurt his injured forefinger, and even to dislocate the hewn-off part. The latter was again restored to its place. Two weeks later it was found thoroughly united. [A series of similar cases from Russian literature may be found in the London Medical Record, August 1886, p. 343.]

6227. *Voino on a Case of Gastrostomy for Cancer of the Œsophagus.*—Dr. Voino, of the Odessa Town Hospital (*Proceedings of the Odessa Medical Society*, Nov. 30, 1885, p. 51), details a case of gastrostomy for malignant disease of the gullet. A heavily drinking labourer, aged 60, who twenty-two years before had suffered from syphilis, was seen by the author about six months after the appearance of dysphagia. Of late the man became unable to swallow even fluids. Though very tall and strongly built, he weighed only 101½ pounds (being so extremely emaciated). An impassable stricture was detected 36 centimètres from the upper incisors. Gastrostomy, as a 'last resource,' was performed in two sittings, with a four days' interval. The first stage of the operation (including chloroform-anæsthesia) lasted sixty-five minutes. The patient was first fed through the fistula on the third day after opening the stomach. Not only did the feeding prove successful, but, in a few days the swallowing of the fluid food strikingly improved. In twenty-six days after establishing the fistula the patient gained in weight 6½ pounds, his mental depression giving place to a cheerful state of mind; the daily amount of urine increased from 600 to 900 cubic centimètres, that of urea from 21 grammes to 32·8, appetite became good, stools regular. Dr. Voino briefly reviews 202 cases of gastrostomy (163 for cancerous, 37 for cicatricial, and two for syphilitic stricture of the œsophagus), found by him in international literature, and winds up his paper by laying down the following propositions. 1. Gastrostomy is indicated only in such cases of malignant disease of the œsophagus where the patient's general state is fairly satisfactory, and swallowing of fluids still possible. 2. Gastrostomy is contra-indicated by: *a*, strongly pronounced cancerous cachexia and metastases in important organs; *b*, important complications such as chronic pneumonia, organic cardiac defects with disturbed compensation, &c. 3. In high (cervical) strictures, if there be no second lower stenosis, œsophagotomy should be preferred. 4. Gastrostomy must be performed invariably under strict antiseptic precautions, and in two sittings, with an average interval of five or six days. [This is the forty-sixth Russian case of gastrostomy for malignant disease of the gullet. *See* the London Medical Record, July 1886, p. 277. *Rep.*]

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6228. *Southam on a Case of Suprapubic Cystotomy for Tumour of the Bladder.*—In the *Brit. Med. Jour.*, October 1886, p. 715, Mr. Southam records the case of a man, aged 41, who was admitted under his care in May 1886, suffering from symptoms of tumour of the bladder. He stated that for four years he had noticed, at times, blood in the urine, but lately it had been almost constantly present, and micturition had become frequent and painful. There was extreme debility, with a blanched appearance. The bladder was distended, and on passing a catheter a large quantity of dark blood-stained urine and blood-clot was drawn off. For some days the patient was kept under observation, and it was observed that more blood was generally present at the end than at the commencement of micturition, and that over 100 ounces of urine passed per diem, always faintly acid and of low specific gravity, varying from 1,006 to 1,010. On several occasions typical villi were detected on microscopical examination of the sediment from the urine. On exploring the bladder, no tumour could be detected, but from the symptoms present it was decided to perform some operation. On May 13 the membranous portion of the urethra was opened from the perinæum on a grooved staff, and the finger introduced into the bladder. It was at once noticed that there were a number of growths extending over a large surface of the inner wall, and it was decided to remove them from an opening above the pubes. An incision being made in the middle line over the pubes, until the bladder was reached, two silk ligatures were passed through its walls immediately above the pubes, at the distance of an inch from one another. An incision of 1½ inches was made between these ligatures. The bladder was then cleared out of recent blood-clot by means of the finger and a scoop. One forefinger was then introduced into the bladder through the suprapubic opening, the other through the perineal; by this means they were easily brought into contact, the growths were scratched away with the nails, and brought out through the upper opening. When all had been removed, the bladder was washed out with water at 120° F. until the fluid issued quite clear. It was then sponged out as dry as possible, and some solution of tincture of steel applied to the bleeding surface. The growths removed varied considerably in size; the largest was about two inches in diameter, and there were upwards of a dozen distinct tumours, some the size of a walnut, others not larger than a bean, besides innumerable smaller masses in the form of soft flocculent tufts. The wound was dressed with cotton-wool and iodoform, the dressings being frequently changed. The patient made a good recovery, and on the twenty-eighth day after the operation passed all the urine *per urethram*.

6229. *Wainwright on Abscesses of the Neck and behind the Pharynx.*—In the *Lancet*, October 1886, p. 671, Mr. Wainwright records the case of a man who was admitted to hospital on account of attacks of dyspnœa. On examining the neck, a large fluctuating swelling was found beneath the trapezius on the right side, and on looking into the mouth the pharynx was found bulged out and pushed towards the left. There was much swelling in the right submaxillary region. The man stated that six weeks previously he noticed gradually increasing dysphagia, and for the last seven days he had only swallowed fluids. An incision was made into the abscess under the trapezius, evacuating about two ounces of pus. This relieved the breathing, but did not empty the abscess in the pharynx. Early next morning he became much worse, and artificial respiration had to be performed to bring him round. On making a largngoscopic examination, there was found to be a large amount of œdema of the right side of the pharynx and tongue; this was incised, and about two ounces of pus escaped. The symptoms were at once relieved, and the patient made a rapid recovery.

6230. *Stevenson on the Treatment of Varicose Veins.*—In the *Lancet*, October 1886, p. 769, Surg.-Major Stevenson draws attention to the very effective manner in which the cure of varicose veins is brought about by the injection of pure carbolic acid. This treatment consists in the injection of one minim of pure carbolic acid at different situations into the enlarged veins, having previously cut off the circulation from the limb by means of an elastic bandage placed above the highest point of puncture. Before operating, the patient should be directed to stand erect for about two minutes in order to allow the veins to become distended. An Esmarch tube should then be passed round the thigh one and a half times, sufficiently tight to stop the superficial venous circulation; then in about a minute the remainder of the tube should be applied so as to cut off all circulation from the limb. Injections of one minim of pure carbolic acid are then made into the veins at about one inch and a half apart, beginning at the upper end of the vein. A little pledget of carbolised cotton-wool is placed over each puncture as the needle is withdrawn, and well soaked with collodion. The elastic bandage should not be removed until fifteen minutes after the last injection, and great care must be taken to remove it very gradually. For at least a week after the operation the patient should not assume the erect position, or put his foot to the ground at all. To military surgeons this simple operation is of the utmost value, and enables many men to perform duties they could not do before.

6231. *Cantlie on a Case of Amputation for Senile Gangrene at the Age of Eighty-two.*—In the *Brit. Med. Jour.*, October 1886, p. 817, Mr. Cantlie records the case of a lady, 82 years of age, who had gangrene of the left foot. At first the patient thought it was a chilblain affecting the toe, and placed her foot in snow at various periods during the winter. As no improvement followed, she was advised by some friend to paint the toe freely with hydrochloric acid. When first seen by the author, gangrene of the great toe was fairly well advanced. Hypodermic injections of morphine were given to relieve pain; and so bad was the nutrition of the limb that the punctures remained unhealed for weeks. As the gangrene slowly spread to the toes and dorsum of the foot, it was resolved that a Teale's amputation just above the ankle gave the only hope. This was accordingly done, and the patient made a good recovery. R. NEALE, M.D.

6232. *Mills on Proper and Improper Methods of Performing Massage.*—In a lecture delivered by Dr. Mills at the Training School for Nurses of the Philadelphia Hospital, he dwelt upon the fact that *massage* was not an art to be picked up by a little casual looking on, seconded by more or less maladroit imitation. No one should set up as a practitioner of massage without having received special instruction. Both teaching and preliminary practice were requisite to make a good operator, the time necessary to its acquisition depending, of course, on the aptitude of the aspirant *masseur* or *masseuse*. Wherever patients had complained to him of the discomfort of *massage* he always made a point of examining the method followed by the attendant, and he was generally able to point out the error in method which caused the discomfort. Alluding to the nomenclature of the subject, he deprecated the employment of the expression 'medical rubber' because that already had a special and different meaning. Quoting from the monograph by Dr. Murrell on massage, he thought that the divisions adopted by that author answered the purpose, and further subdivision was, in his opinion, unnecessary and confusing. He then described in detail the various processes known as *effleurage*, *friction*, *pétrissage*, and *tapotement*, each of which had its particular application either alone or in combination. He called attention to certain vicious little habits which *masseurs* were apt to fall into, and which might be productive of pain and discomfort, if nothing worse. The treatment, he said, must be complete and systematic, and must be carried out firmly but gently. He advised the nurses, his listeners, to avoid undue garrulity or inquisitiveness, and particularly to avoid any vain-glorious and idle vaunting of their own powers or capacity. In conclusion, he alluded to the duplicated active Swedish movements which are frequently associated with massage but which were not to be employed unless by special direction of the physician in charge. These movements are so called because the operator and the patient take part in them, and the important practical point is to see that both *do* take part. The *masseur* must learn by practice the neatest and least awkward method of opposing the patient's movements or causing the patient to resist the force applied. As in massage, observation of two manipulators will reveal the greatest difference in this respect; one will be easy, quick, graceful and encouraging, the other slow, stiff, awkward, and discouraging. ALFRED S. GUBB.

MEDICINE.

RECENT PAPERS.

6233. BEATSON, DR.—On an Unusual Cause of Burns of the Face. (*Brit. Med. Jour.*, February 1886, p. 295.)

6234. MERCES.—The Treatment of Diphtheria. (*Lancet*, October 1886.)

6235. RALFE.—Some Clinical Relations of Functional Albuminuria. (*Lancet*, October 1886.)

6236. BOOBBYER AND TATHAM.—On Scarlet Fever. (*Brit. Med. Jour.*, October 1886.)

6237. ASHBY.—The Duration of Infectiveness in Scarlet Fever. (*Brit. Med. Jour.*, October 1886.)

6238. KOLOSOFF, IVAN L.—On Gangrenous Pharyngitis. (*Proceedings of the Omsk Medical Society*, No. 6, 1885, p. 121.)

6239. SCHULZ.—On an Epidemic of Ragsorters' Disease in Ligat. (*Proceedings of the Riga Medical Society*, May 7, 1886, p. 442.)

6240. SMORODINTZEFF, A.—On Recurrence of Scarlatina. (*Permsky Epidemiologitchesky Listok*, No. 14, 1886, p. 282.)

6241. TCHUDNOVSKY, J. B.—Tænia Solium as a Cause of Epileptoid Fits. (*Proceedings of the Viatka Medical Society*, Nos. 7–12, 1886, p. 22.)

6242. MOHILANSKY, A. M.—A Contribution to the Question of Mortality from Enteric Fever as Regards the Age. (*Vratch*, No. 7, 1886, p. 127, with charts.)

6243. BORTHEN.—Three Cases of Suppuration of the Frontal Sinus. (*Revue Internationale des Sciences Médicales*, 1886, No. 34.)

ART. 6233. *Beatson on an Unusual Cause of Burns of the Face.*—In the *Brit. Med. Jour.*, February 1886, p. 295, Dr. Beatson records a case of peculiar interest. A gentleman was troubled for about a month with flatulence and very foul eructations. He suffered no pain, but the smell of the gas that came from the stomach was so bad that no one could stay in the same room with him. One morning he got up and lighted a match to see the time, and on putting the match near his mouth to blow it out, his breath caught fire, and gave a loud report, burning his lips a good deal. This was apparently due to the formation of carburetted hydrogen in the stomach which, mixed with air, ignited when the match was brought near the mouth. [Some interesting observations upon such cases as the above are referred to in the *Medical Digest*, sect. 587.]—*Rep.*

6234. *Merces on the Treatment of Diphtheria.*—In the *Lancet*, October 1886, p. 815, Mr. Merces suggests a plan of treating diphtheria which he has found very successful. Where there is marked depression, though only slight indications of diphtheritic deposit, a gentle aperient should be given, followed by the following mixture. Solution of perchloride of iron, 6 drachms; dilute nitric acid, 2 drachms; glycerine, 1 ounce; water to 6 ounces. An ounce to be taken every two hours. After the lapse of a few hours an emetic should be given in the form of apomorphia: this gives great relief to the dyspnœa. If the patient is old enough, a gargle (prepared as follows) should be used. In a six-ounce bottle place a drachm of chlorate of potash, add to it half a drachm of pure hydrochloric acid, and while the nascent chlorine gas is being generated fill the bottle with water, and direct that an ounce of the gargle be used every three hours. The patient's strength should be maintained by small and frequent quantities of milk, beef-tea, &c. If there be any marked prostration, alcohol must be given freely.

6235. *Ralfe on some Clinical Relations of Functional Albuminuria.*—In the *Lancet*, October 1886, p. 764, Dr. Ralfe endeavours to show that a relationship exists between those forms of albuminuria which are called 'functional' and hæmoglobinuria, and brings forward facts which tend not only to prove such a relationship exists, but that in all probability many forms of 'functional albuminuria' are only minor manifestations of hæmoglobinuria, and that the two conditions may become merged into one another. Under the terms 'intermittent albuminuria,' 'albuminuria of digestion,' 'cyclical albuminuria,' &c., various authors have described a condition in which without any great disturbance of bodily health, and without any renal disease, albumen is found more or less continuously in the urine. These varieties are brought about, most likely, by the same pathological factors. Taking any one of the above forms, the largest proportion of cases will be found to occur in young adult males; they are nearly always found occurring among individuals who are either suffering from some constitutional taint, inherited or acquired—such as gout, rheumatism, syphilis, or malaria—or in whom some disturbance of the vaso-motor system can be demonstrated. The intermittent character of the discharge of albumen is common to all forms, and the ebb and flow of the albumen present in the urine are distinctly regulated by some disturbing cause, such as the ingestion of food, rising from bed, cold bathing, or exercise. The urine in all these cases presents two characteristic features—viz., increase of urea, and an abnormal amount of urinary pigments; whilst sometimes bile-pigment can also be detected. Like functional albuminuria, hæmoglobinuria is essentially a disease of young adult males; like it, it is nearly always associated with hereditary or acquired constitutional taint. In both there is a certain degree of anæmia. Hæmoglobinuria is accompanied with a certain degree of jaundice and marked dyspeptic symptoms, and in cases of functional albuminuria the patient often suffers from biliousness or indigestion. In some cases of hæmoglobinuria the urine remains free from albumen between the paroxysms, but in the majority of cases the albuminuria continues, and if this be watched from day to day it will be found also to vary at times, just as one would suspect in a case of true functional albuminuria. Apart from the presence of hæmoglobin in the urine, the character of this secretion is very similar in the two conditions—in hæmoglobinuria an increased excretion of urea is observable, and when the colouring matter of the blood has disappeared the urine is nearly always found deeply coloured from excess of urobilin, whilst crystals of bilirubin may be observed in the urinary sediment. These considerations point to a strong relationship between hæmoglobinuria and functional albuminuria. Three cases are detailed which go to prove this view, and also tend to show that 'functional albuminuria' is often, indeed, only a minor manifestation of hæmoglobinuria, the two conditions often merging one into the other. (Vide *Medical Digest* and Appendix, sect. 1,008)

6236. *Boobbyer and Tatham on Scarlet Fever.*—In the *Brit. Med. Jour.*, October 1886, p. 810, Mr. Boobbyer, M.B., records a few facts bearing on the propagation of scarlet fever. The author shows how an outbreak occurred whilst a new drainage system was in course of construction in a colliery district in Notts. During the construction of the sewer, it was necessary to turn over some very foul artificial soil, and wherever this had been done the fever was sure to show itself. These facts tend to show that the appearance of scarlet fever bears a close relationship to the disturbance of impure soil. At page 811, Mr. Tatham, M.B., states the method adopted by him at Salford for the prevention of scarlet fever. In the first place, it is important that every case that occurs should be reported to the medical officer of health. In the second place, in every reported seizure, special care should be taken (*a*) in case isolation is possible at home, that the most complete segregation practicable is secured, and (*b*) in case house-isolation is impossible, that removal to hospital (with consent) should be effected with all necessary despatch, and (*c*) that in event of recovery or of death of the patient at home, or, in case of removal to hospital, a very complete purification of infected premises and bedding should be carried out under the superintendence of the medical officer. Lastly, on visiting an infected house, the inspector makes a careful survey of the house and premises, with a view of discovering (1) whether the disease present has been caused by unsanitary conditions, (2) whether infection has been imported from elsewhere, and (3) whether the house contains other children who are in actual attendance at school. In order to enable an Urban Sanitary Authority to deal at once with scarlet fever, it is essential that it should be furnished (1) with complete powers for securing the notification of such cases as occur; and (2) with a suitable hospital for the isolation of such cases as cannot safely be treated at home.

6237. *Ashby on the Duration of Infectiveness in Scarlet Fever.*—In the *Brit. Med. Jour.*, October 1886, p. 814, Dr. Ashby discusses the question of the duration of infectiveness in scarlet fever, and summarises his paper as follows. 1. If desquamation be complete, convalescent scarlet fever patients may be discharged at the end of the sixth week, though, in order to secure absolute immunity from infection, it is wiser to delay till the eighth week. 2. Cases complicated with nephritis, empyema, otitis, or glandular abscesses, should be detained until the cure is complete. 3. That while it is important that desquamation should be as complete as possible, the detention of patients beyond the eighth week in order that the epidermis should be removed upon the soles of the feet, &c., is unnecessary.

RICHARD NEALE, M.D.

6238. *Kolosoff on Gangrenous Pharyngitis.*—Dr. Ivan L. Kolosoff, of Omsk, describes (*Proceedings of the Omsk Medical Society*, No. 6, 1885, p. 121) the case of a girl, aged 11, who was attacked by scarlatina of a severe form, and who on the fifth day, after the appearance of rash, began to complain of burning and aching in her throat, and of inability to swallow even saliva. Both of the tonsils were found to be covered with yellowish-grey patches, the retro-maxillary lymphatic glands being swollen and tender, and the evening temperature ascending from 40°·5 to 41° 0 C. The patches rapidly spread over the whole fauces and pharynx, the breath becoming offensive. A sero-purulent blood-stained discharge oozed from her nose. There were present severe adynamia and drowsiness, and the child's state altogether seemed hopeless. A demarcation line, however, made its appearance; and on the eighth day of the rash (the fourth of the throat affection) a dirty-greyish slough from the left side of the fauces fell off, leaving an exulcerated bleeding surface. On the ninth day a similar membrane from the right side and from the pharynx separated. Simultaneously, fever fell to 38°·9 C., the submaxillary swelling decreased, the general state began to improve, and the rash to become paler. In the course of the next two weeks the fauces and pharynx returned to their normal state. The patient recovered after a period of desquamation of three weeks' duration. The local treatment consisted in painting with a half per cent. solution of corrosive sublimate, in inhalation of turpentine vapours, and irrigation of the nasal cavities with a solution of permanganate of potassium (two grains to one fluid pound of water). Since there were no spreading of the process to the respiratory tracts, no consecutive paralyses, and 'no occasion for a diphtheritic infection,' Dr. Kolosoff came to the conclusion that he had to deal with an instance of Henoch's *pharyngitis gangrenosa s. necrotica.*

6239. *Schulz on an Epidemic of Ragsorters' Disease.*—At a recent meeting of the Riga Medical Society, Dr. Schulz (*Proceedings of the Riga Medical Society*, May 7, 1886, p. 442) made an interesting communication on an epidemic which had broken out at a paper-mill in Ligat amongst working women employed in sorting rags. On April 25, 5 (out of 56) women fell ill, and within five days all died; on April 28, other 7 were attacked by the same disease; 1 of them died by the end of twenty-four hours, but the other 6 gradually recovered. The disease was ushered in by an intense rigor, which was sometimes accompanied by a very high rise of the temperature, and was always followed by malaise, loss of appetite, headache, dyspnœa, agonising cough with scanty expectoration, and small pulse. In fatal cases there soon appeared a subnormal decrease of the temperature, with almost impalpable pulse, coolness of the extremities, cold sweat, cyanosis, and extreme collapse. Death occurred on an average in three days; in one case in a day; and in two cases in four-and-a-half days. At the *post mortem* examination (which was made about three days after death) there were found a striking decomposition of the body, green cadaveric discoloration of the neck and chest; sero-sanguinolent imbibition of the mediastinum and of the considerably enlarged bronchial glands, as well as of the mucous membranes of the larynx, trachea, and bronchi; and profuse sero-sanguinolent transudation into the pleuræ and pericardium. The blood was fluid and dark; the cardiac muscle pale and flabby; the lungs were distended, dry, and anæmic, and their lower lobes hypostatic; the spleen was considerably enlarged, its capsule thinned and somewhat softened, and its parenchyma almost fluid. Dr. Schulz (who made an inquiry into the cases conjointly with Drs.

Krannhals, Heerwagen, and Radecki) does not entertain any doubt that the cases mentioned above are typical instances of the so-called 'ragsorters' disease' (*Hadernkrankheit* of German authors), ascribed by Klob and Frisch to the anthrax contagium. Dr. Krannhals' investigations (*see* p. 550), however, seem to point in another direction.

6240. *Smorodintzeff on Recurrence of Scarlatina.*—In the *Permsky Epidemiologitchesky Listok*, No. 14, 1886, p. 282, Dr. A. Smorodintzeff, of Ekaterinburg, records two cases of recurrence of scarlatina. A boy, aged 4, was attacked with light, but typical scarlet fever; three weeks after the disappearance of desquamation, a fresh attack of the disease followed, scarlatina being this time complicated with diphtheritic angina. The patient made good recovery. Another boy, aged 9, had typical scarlatina associated with diphtheritic sore throat. A month after complete recovery, he again fell ill with a severe form of the disease and but very slowly recovered from scarlatinous nephritis. The above cases came under the author's observation during an epidemic of scarlet fever which prevailed over a part of the Ekaterinburg district from November 1885 till April 1886. In all, 324 patients (of 24,000 inhabitants) were attacked, with the mortality of 10·8 per cent. One of the patients was a woman, aged 57, in whom scarlatina was complicated with severe faucial diphtheritis and followed by prolonged desquamation. Dr. Smorodintzeff briefly mentions two cases where the disease was seemingly transmitted (from families of poorest labourers to those of well-to-do grocers) through banknotes.

6241. *Tchudnovsky on Epileptoid Fits Caused by Tænia Solium.*—Dr. J. B. Tchudnovsky, of Viatka, reports (*Proceedings of the Viatka Medical Society*, Nos. 7-12, 1886, p. 22) the case of an anæmic delicate woman, aged 34, who for the last eight years was subject to fits, which at first came only two or three times a year and lasted usually a quarter of an hour, but later on commenced to occur once monthly and to last sometimes an hour or so. The fits were ushered by loss of consciousness (without uttering a cry), and consisted in clonic and tonic convulsions of all muscular groups in the body, those of the facial and cervical muscles being invariably the last to disappear. According to the patient's statement, she suffered from her childhood from tapeworms, which began especially to trouble her during the last three years, the proglottides incessantly escaping from her anus even when she sat quite quietly. Her sleep was interrupted, stools coming only once every five or six days (and that only after laxatives). The administration of extract of male fern, kamala, and kousso expelled at various occasions only headless tapes, about 25 to 35 feet in length. The fits still continued; they even increased in frequency when the author tried a four months' course of bromide of potassium with Fowler's solution and morphia. The failure of nervine induced Dr. Tchudnovsky to again take resort to anthelmintics. This time about 116 feet of the worms were discharged, and a head of a tænia solium was at last found. The convulsive fits disappeared and did not recur. The general state of the patient rapidly and steadily improved. Judging from such an enormous length of the tapes, the patient undoubtedly was a host of several parasites. The future will show where were or are the other heads.

6242. *Mohilansky on Mortality from Enteric Fever as Regards the Age.*—In the *Vratch*, No. 7, 1886, p. 127, Dr. A. M. Mohilansky, of Professor V. A. Manassein's clinic, writes that he has studied statistical data (from the *St. Petersburg Statistical Year Books* for 1881-84) concerning the mortality from typhoid fever, in order to verify the statements that the strongest predisposition to the disease in question is manifested by the ages between 15 and 30 (Liebermeister, Hagenbach), or between 15 and 25 (Murchison). The author thinks that those statements have but a doubtful value, since none of the observers named took into consideration the relation of fatal cases of the age given to the whole number of inhabitants of the same age. When the said relation is duly considered, the question of the predisposition receives a rather different answer than that given by Liebermeister, Hagenbach, and Murchison. Here is the author's table.

Age.	The number of inhabitants.	1831.		1882.		1883.		1884.	
		Deaths.	Percentage.	Deaths.	Percentage.	Deaths.	Percentage.	Deaths.	Percentage.
0—5	68,489	85	0·125	77	0·112	50	0·073	67	0·097
6—10	48,838	49	0·100	29	0·059	25	0·051	30	0·061
11—15	69,494	70	0·100	56	0·080	78	0·112	50	0·071
16—20	105,665	216	0·207	161	0·152	151	0·142	122	0·115
21—30	235,400	447	0·189	363	0·157	331	0·140	286	0·121
31—40	149,262	210	0·140	113	0·075	88	0·058	64	0·042
41—50	93,115	185	0·198	75	0·080	51	0·054	51	0·054
51—60	55,592	149	0·268	56	0·100	47	0·084	47	0·084
61—70	25,293	65	0·256	29	0·114	31	0·122	22	0·086
71—80	7,459	18	0·241	8	0·107	8	0·107	11	0·147
81—100	1,417	5	0·353	3	0·211	1	0·070	0	0·000

The following deductions from the table are justified. 1. Not all ages are equally disposed to typhoid fever. 2. The mortality from the latter predominates in the mature and senile ages. The minimal mortality falls to *a.* the age between 5 and 19; and *b.* the age between 30 and 40. The maximal mortality falls to *a*, the age between 15 and 30; and *b*, to that about 70. The same results were obtained by Dr. Mohilansky from the study of the dates contained in the *Stat. Jahrbuch der Stadt Berlin* for 1879-83.

V. Idelson, M.D.

6243. *Borthen on Three Cases of Suppuration of the Frontal Sinus.*—Three cases of suppuration of the frontal sinus (empyema of the frontal sinus, Dr. Borthen) are reported in the *Revue Internationale des Sciences Médicales*, 1886, No. 34. Case 1.—Woman, aged 56. The disease began two or three years ago with headaches almost continual, and so violent as to cause vomiting. Intense coryza followed. After some time a tumour slowly developed at the internal angle of the orbit. Examination: Right eye looks down and out, slight exophthalmos, right pupil about one centimètre lower than left; peculiar physiognomy. Between the lacrymal sac and the globe of the eye is a swelling about three centimètres long, which is felt within the orbit as far as the finger can reach; fluctuation; skin normal. Slight pain on pressure below eyebrow, but no sign of cerebral compression. Movements of eye impeded, no diplopia, vertigo on closing sound eye. Thick pus escaped on exploratory puncture. Treatment: Incision; evacuation of four or five teaspoonfuls of thick yellow pus; washing out with a solution of salicylic acid, and drainage, a little silver tube being left in the wound. Improvement rapidly followed, but there was still a slight discharge. Case 2.—Woman, aged 50. Tumour at nternal angle of orbit; no deviation of eye. Severe headaches preceded tumour. Treatment as above; incision, emptying, and drainage. Cure in a fortnight. Case 3.—Woman, aged 33. Disseminated choroiditis, and slight swelling in left orbit, internal half. Elastic tumour felt within orbit. Left eye six millimètres lower than right. Diplopia on looking to right. Headaches and violent pains in back of neck. Sleeplessness, nausea, anorexia. Treatment: Skin incised, and tendon of superior oblique muscles reached and divided. Cyst punctured and washed out with a four per cent. boric acid solution. Between one and two ounces of yellowish viscous fluid escaped. Drainage. An intense coryza came on some days after operation. The abscess healed, but slight diplopia persisted.

E. J. Edwardes, M.D.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

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6245. Robson.—Cucaine in Major Operations. (*Brit. Med. Jour.*, November 1886.)

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6248. Robertson.—Salicylate of Soda for Fœtid Urine. (*Lancet*, October 1886.)

6249. Simon.—The Use of Ice-water Enemata in the Treatment of Diarrhœa. (*Brit. Med. Jour.*, October 1886.)

6250. Illingworth.—A Specific and Prophylactic for Scarlet Fever and Diphtheria. (*Brit. Med. Jour.*, October 1886.)

6251. Hall.—The Treatment of Sneezing, Hay Fever, Asthma, &c., by the Galvano-cautery. (*Lancet*, November 1886.)

6252. Collie.—On Alcohol in Fever. (*Practitioner*, November 1886.)

6253. Atkinson.—The Treatment of Certain Forms of Vomiting. (*Practitioner*, November 1886.)

6254. Bruce.—Hyoscine as a Cerebral Sedative. (*Practitioner*, November 1886.)

6255. Werner.—On Sublimate Corrosive and Ichthyol in Diphtheria. (*St. Petersburg Medits. Wochensch.*, No. 9, 1886; and the *Vratch*, No. 12, p. 222.)

6256. Slesarevsky, A.—On the Treatment of Anthrax by Corrosive Sublimate. (*Russkaia Meditzina*, No. 30, 1886, p. 508.)

6257. Dübelir, Dmitry J.—A Note on Ichthyol in Rheumatism. (*Meditz. Obozr.*, No. 12, 1886, p. 1124.)

6258. Morozoff, Dmitry. — Four Cases of Local Anthrax in Man. (*Ejenedelnaia Klinitcheskaia Gazeta*, 1886, No. 6, pp. 136-39; and No. 7, p. 165.)

6259. Levantüeff, Mikhail S.—On the Treatment of Anthrax by the Hypodermic Injection of Carbolic Acid. (*Proceedings of the Omsk Medical Society*, No. 2, 1885, p. 24.)

6260. Indütnyi, P.—On the Treatment of Anthrax. (*Russkaia Meditzina*, No. 26, 1886, p. 445.)

6261. Prokhoroff, P.—On Tar-Dressing. (*Vratch*, No. 29, 1886, p. 330.)

6262. Vladimiroff, Ivan P.—On the Treatment of Dysenteria by Acetate of Alumina. (*Proceedings of the Omsk Medical Society*, No. 9, 1885, p. 174.)

6263. Pakholkoff, Nikolai J.—On the Treatment of Faucial Diphtheritis. (*Proceedings of the Omsk Medical Society*, No. 11, 1885, p. 188, and No. 11, 1884, p. 123.)

6264. Holst.—On the Use of Morphia and Chloral in Rheumatic Tetanus. (*Proceedings of the Riga Medical Society*, 1885, p. 371.)

6265. Afonsky. — On Prophylactic Treatment of Hydrophobia. (*Russkaia Meditzina*, No. 24, 1886, p. 411.)

6266. Glinsky, A. G.—On the Treatment of Acute Alcoholism. (*Russkaia Meditzina*, No. 30, 1886, p. 507.)

6267. Ory.—The Treatment of Erysipelas by Carbolic Acid Spray. (*Société Médico-Pratique.*)

6268. The Preparation of Antifébrine.

6269. Arthaud.—The Therapeutic Action of Tannin in the Treatment of Tuberculosis.

6270. Labastide.—On Peptone. (*Gazette des Hôpitaux*, Oct. 30.)

6271. Bordé, L.—Jequirity in the Treatment of Chronic Granular Metritis. (*Annali di Chim. e di Farmacol.*, October 1886.)

6272. Destruge, A.—Panama Fever. (*El Monitor Medico*, Aug. 15, 1886.)

6273. De Souza, A.—Lowering of the Temperature in Fever by the Ambient Air. (*El Monitor Medico*, September 1886.)

6274. Graselli, G. — Hypodermic Injections of Strychnia in some Cases of Amblyopia. (*Gazz. Med. Ital. Lombard.*, Oct. 23, 1886.)

6275. Garcia, Crescencio.—On Guachacata. (*Revue Internat. des Sciences Méd.*, 1886, No. 36.)

6276. Ivanovsky, Dr.—On Chloral-hydrate as a Vesicant. (*Wratsch*, No. 16, p. 292.)

6277. Dujardin-Beaumetz, Dr.—On the Treatment of Pulmonary Affections by Means of Gaseous Injections *per rectum*. (*Bull. Gén. de Thérap.*, Nov. 30, 1886.)

Art. 6244. *Clay on Chian Turpentine in the Treatment of Cancer.*—In the *Lancet*, October 1886, p. 720, Dr. John Clay records three cases of epithelial cancer, in different positions, each treated by Chian turpentine. These are not isolated cases, but are types of a number of successes obtained by similar treatment in a number of cases during the last six years. One case was that of a gentleman aged 59 years, who was suffering from epithelioma of the tongue, which was first noticed about December 1884. On March 30, 1885, he was seen by the author; there was an ulcer about the size of a sixpence at the junction of the root of the tongue with the floor of the mouth; its edge was hard and everted, and there was a row of raised shot-like epithelial growths proceeding from the ulcer along the side of the tongue. There was an enlarged submaxillary gland about the size of a pullet's egg. The author gave an unfavourable prognosis, but suggested the following treatment. A mixture containing eight ounces of Chian turpentine (Southall's), and two drachms of resorcin, two teaspoonfuls to be given three times a day; the ulcer and growths to be painted on alternate days, respectively with chromic acid solution (ten grains to the ounce) and solution of perchloride of mercury (one grain to the ounce). One month later no improvement had taken place; if anything, the glandular enlargement was more marked. The treatment was still persevered in, and, on June 30, the report was very satisfactory. The ulcer of the tongue had healed, and the gland had almost dispersed. In July another ulcer was detected on the other side of the tongue; this was painted with the two solutions, and in about a month it had disappeared. In December 1885 the patient seemed quite well. Another case was that of a woman aged 52 years, who consulted Dr. Clay on Oct. 20, 1883, on account of a growth occupying nearly the whole of the upper lip, and involving the lower portion of the left ala nasi. It presented a fungating raised appearance, and was irregular in outline. A small portion of the growth was examined under the microscope, and presented the characteristic signs of epithelioma. The raw surface of the growth was painted with perchloride of iron and dressed with vaseline. The *simple* Chian turpentine mixture was given thrice a day, in two-teaspoonful doses. At the end of thirteen weeks the mass had separated, leaving the lip free from hardness, with a white cicatrix about the size of a shilling. In August 1886 the patient was quite well. The third case was that of a woman aged 54 years, who had cancer of the os and cervix uteri. She was placed on the Chian turpentine mixture; at the end of five months the growth had disappeared, and the patient had gained 15 lbs. in weight. [Many cases for and against the treatment of cancer by Chian turpentine are noted in sects. 1668 : 5 of the *Medical Digest* and Appendix.]

6245. *Robson on Cucaine in Major Operations.*—In the *Brit. Med. Jour.*, November 1886, p. 859, Mr. Mago Robson records two cases in which cucaine proved most useful as an anæsthetic. A middle-aged man was admitted with an epithelioma, about the size of a walnut, near the apex of the tongue on the right side. A grain of cucaine, in ten drops of water, was injected deeply into the tongue beyond the tumour, the needle of the syringe being pushed up to the hilt, and the fluid expelled in several places as the point was withdrawn. After waiting ten minutes, the man protruded his tongue to the utmost, and two harelip pins were pushed through beyond the tumour, the loop of the écraseur being placed beyond them. The included part was removed without difficulty and without pain. The second case was that of a gentleman who had a large varicocele and wished it removed, but would not take ether. In this case a grain of cucaine was injected just where the incision was to be. After ten minutes the incision was made, a double ligature was applied to the varicocele, an inch and a half was then excised, and the skin was sutured with one stitch. The patient felt no pain; the wound healed by first intention, and he was able to go out on the ninth day. In cases where it is used for small operations it is best to apply a tourniquet immediately after it has been injected, so as to prevent the cucaine from circulating away from the part to be operated upon.

6246. *Cheadle on the Treatment of Intussusception by Inflation and Massage.*—In the *Lancet*, October 1886, p. 766, Dr. Cheadle reports three consecutive cases of intussusception treated successfully by inflation and manipulation of the abdomen. The first case was that of a little boy, aged 5 months, who was admitted on July 12 with constipation, violent vomiting, and passage of blood from the rectum. The child's mother stated that he suffered a good deal from attacks of constipation. On July 4 one of these attacks commenced, and the bowels were not relieved until the 8th, then only by giving a dose of 'white magnesia.' On the 9th, half a Steedman's powder was given, followed by two stools on the 10th, when the other half of the powder was given. On the afternoon of the 11th the child kicked and screamed so much after being put to the breast, that the mother applied hot flannels to the abdomen; these gave relief for a time. In the evening, however, he became restless, and about midnight began to vomit. At 5 A.M. on July 12 a thin bloody discharge came from the rectum. The child was then taken to the hospital. On examining the abdomen an elongated sausage-like tumour could be felt above the level of the umbilicus, extending into the left flank, where it was lost. The rectum was found to be empty, and on withdrawing the finger some thin bloody fluid came away. An injection of warm water was at once given with an ordinary Higginson's syringe, but not more than two syringefuls could be injected; then four syringefuls of air were introduced and retained by pressing together the folds of the buttocks and the skin of the anus closely round the base of the nozzle of the syringe. At the same time the abdomen was kneaded externally. After this process had been continued for some minutes the tumour was found to have disappeared. Some hours afterwards, however, the tumour again developed; this time in the right hypochondrium. The injection of air and massage were repeated under chloroform; by this means ten syringefuls of air were introduced and the tumour rapidly disappeared. About four hours later a natural motion was passed, and in a few days the child was discharged well. Two similar cases are also recorded in which this treatment was adopted with marked success. [In the *Medical Digest* and Appendix in section 871 : 1 a very large number of cases identical to the above are recorded, a perfect recovery following in most cases.]

6247. *Tyrrell on Iodoform in the Treatment of Lupus.*—In the *Lancet*, October 1886, p. 817, Mr. Tyrrell publishes two cases of lupus successfully treated with iodoform. A boy, aged 16, was admitted into hospital on Feb. 4, 1884, with the lower half of the alæ of the nose destroyed by lupus, and almost the whole of the upper lip. The sore was dressed with an ointment containing one drachm of iodoform to one ounce of vaseline, plugs of lint covered with the ointment being inserted into each nostril. The wound immediately began to assume a healthy appearance, and healed slowly but uninterruptedly, the patient being discharged cured by the end of July 1884. Another case, in which the disease had lasted two years, and had destroyed a great deal of the nose, was cured by the application of the ointment from March to August (vide *Medical Digest* and Appendix, sect. 65 : 3).

6248. *Robertson on Salicylate of Soda for Fœtid Urine.*—In the *Lancet*, October 1886, p. 853, Mr. Robertson states that he used salicylate of soda with great benefit in the case of a lady, aged 60, who was suffering from very alkaline fœtid and flocculent urine. A dose of ten grains, given every four hours for about three days, made the urine clear, sweet, and decidedly acid. The condition of the patient rapidly improved under this treatment. Those who have used boracic acid as recommended by Perez (*Lancet*, July 1882, p. 133) will not need any more certain remedy (vide *Medical Digest* Appendix, sect. 1067 : 5).

6249. *Simon on the Use of Ice-water Enemata in the Treatment of Diarrhœa.*—In the *Brit. Med. Jour.*, October 1886, p. 817, Mr. Simon, M.B., testifies to the usefulness of giving ice-water enemata in cases of diarrhœa in young children. Ice should be dissolved in water, and from two to three ounces injected. The immediate effect is commonly a quiet sleep and improvement in the collapsed condition. Subsequently, the effect upon the diarrhœa is also good, and it will rarely be found necessary to repeat the enema. Internal treatment may often have to be continued, but the life of many a collapsed child has been saved by the use of ice-water. Sometimes it is necessary to give a few drops of brandy by mouth just before giving the enema.

6250. *Illingworth on a Specific and Prophylactic for Scarlet Fever and Diphtheria.*—In the *Brit. Med. Jour.*, October 1886, p. 817, Dr. Illingworth states that the biniodide of mercury is a specific for scarlet fever and diphtheria. In scarlet fever this medicine produces immediate defervescence, instead of upon the fifth day, and the absence of desquamation in consequence. In diphtheria the rapid disappearance of the membranous effusion and reduction of temperature is marked as soon as the administration of the drug is commenced. The efficacy of this drug depends upon the diffusible potassic iodide carrying the germicide biniodide to every portion of the circulation.

6251. *Hall on the Treatment of Sneezing, Hay Fever, Asthma, &c., by the Galvano-cautery.*—In the *Lancet*, November 1886, p. 913, Dr. F. de Havilland Hall describes some cases in which he applied the galvano-cautery to the mucous membrane of the nose. One patient was a lady, aged 27, who suffered from violent fits of sneezing while pregnant; these continued until she was delivered of a stillborn child, the limbs of which were said to be much contorted. Next year she was again pregnant, and in May she suffered from the sneezing fits as severely as ever. On examining the mucous membrane covering the inferior turbinated bone, it was found to be greatly hypertrophied on the right side, and slightly on the left. A solution of cucaine was applied to both nostrils, then the galvano-cautery was used. A fortnight later another application was made, and the patient stated that the sneezing fits were not so frequent. At the end of two months the mucous membrâne had contracted sufficiently to make another application of the cautery unnecessary. A 2 per cent. solution of cucaine was ordered to be used as a spray night and morning; and, whenever a sneezing attack seemed imminent, she was directed to sniff a bottle of carbolised smelling-salts. This patient made very good progress, and lost the sneezing fits almost entirely. Since the introduction of cucaine this method of treatment has become more generally adopted. The author sprays the nostril with a 10 per cent. solution of cucaine, then paints the affected parts with a 20 per cent. solution. After waiting a few minutes, until sensibility is lost, two or three deep furrows, parallel to each other, are made in the mucous membrane by means of the cautery. After the operation, all that need be done is to pass a little cold cream or zinc ointment up the nostrils. In a week or ten days the burns will have healed, and in two or three weeks another application is made if necessary.

6252. *Collie on Alcohol in Fever.*—In the *Practitioner*, November 1886, p. 353, Dr. Alex. Collie states the conditions in which he considers alcohol should be employed in fever. He divides the subject into four headings. 1. *General Observations.*—As a rule, alcohol is not required in mild cases, nor in severe ones if the patient is taking sufficient food, nor generally in young adults of the well-to-do classes. It is very useful in the case of adults, young and old, to produce sleep, and for young children it is especially useful for this purpose. Generally, it is indispensable in all cases of exhaustion, particularly that form of it indicated by feeble circulation and in cases of fever among the destitute poor. The quantity needed varies in each case; but, as a rule, one bottle of champagne or of burgundy, half a bottle of port, or six ounces of brandy or whisky, or ten ounces of gin is sufficient for an adult daily. 2. *Typhus Fever.*—Alcohol is rarely needed for children, and seldom for adults under thirty in this fever; but after this age it is sometimes needed in considerable quantities, but during convalescence it is not needed, as solid food can generally be taken. 3. *Scarlet Fever.*—Alcohol is not often required in this disease, but during the early convalescence of destitute poor children, when there are abscesses and swellings in the neck, much good is obtained from giving port wine in quantities of from four to eight ounces daily. 4. *Enteric Fever.*—It is during convalescence that alcohol is so useful in this fever. In cases of any severity the fever is long, and the consequent exhaustion great, the craving for food intense, and the dislike to milk and beef-tea very strong. Solid food cannot be taken until fourteen days after the temperature is normal. This is the most trying time for the patient, and an allowance of alcohol relieves the craving for food. The following case illustrates the value of alcohol in a severe form of this fever. A patient was admitted on September 14, but nothing noteworthy happened until the 29th, when severe vomiting set in continuously; everything was rejected, and the exhaustion was extreme. For three days and three nights the patient took nothing but champagne and ice, and for nine more nothing but champagne, ice, a little brandy, and one or two pints of beef-tea. The temperature was 104° F. almost constantly, and it is almost certain that the patient could not have survived for twelve days had it not been for the free use of alcohol.

6253. *Atkinson on the Treatment of Certain Forms of Vomiting.*—In the *Practitioner*, November 1886, p. 357, Dr. Atkinson considers the treatment of some kinds of vomiting. 1. In cases of bilious vomiting, a mixture containing 15 minims of solution of potash and 4 of laudanum, administered every four hours, acts like a charm. 2. For the vomiting of pregnancy, the author suggests a little milk and tea, with a small piece of bread and butter, or biscuit, immediately before rising in the morning. Where this is unavailing, it is often found that dilatation of the os uteri with the finger often stops the vomiting. 3. In vomiting from ulcer of the stomach it is necessary to give small quantities of peptonised milk or koumiss at short intervals, and a teaspoonful of Brand's essence of beef, or Valentine's meat-juice in cold water every four hours. The body should be kept well covered with warm clothing. Later on, pieces of rusk, corn-flour, blancmange, arrowroot, &c., may be given, and by slow degrees the patient can return to his ordinary diet. When the vomiting is very urgent, food must be given by enemata. In attacks of sea-sickness the patient should remain in the supine position, and apply pressure to the pit of the stomach, whilst some Brand's essence is taken at frequent intervals, and now and then a cucaine lozenge. It is a good plan to take 15 grains of bromide of potassium three times a day for about a week before a sea voyage.

6254. *Bruce on Hyoscine as a Cerebral Sedative.*—In the *Practitioner*, November 1886, p. 321, Dr. Mitchell Bruce contributes an article on the usefulness of hyoscine as a powerful cerebral sedative in cases of delirium, mania, insomnia with restlessness. This drug is one of the alkaloids of hyoscyamus; it is a syrupy body, unsuitable for use, and is given in the form of the hydriodate or hydrobromate, both crystalline salts. Several cases are noted by the author in which he has tried this remedy, and it has always acted as a complete cerebral sedative. It must not be supposed that it will cure any disease, and is only to be used to combat urgent symptoms. In some cases the symptoms, once controlled, do not return. A most serious disadvantage connected with its use is the unpleasant symptoms to which it sometimes gives rise in connection with respiration and circulation. Within half an hour after the administration of a full dose (say $\frac{1}{100}$ to $\frac{1}{75}$ grains hypodermically), it may cause failure of respiration in the form of rapid shallow breathings, or even Cheyne-Stokes's rhythm, and sometimes aggravates a cough if one is present. The pulse also may become weak and infrequent, the face livid, the pupils dilated—in fact, the patient seems at the point of death—but the author is not aware of any case in which death was due to an overdose of the drug. A dose, however, of $\frac{1}{200}$ grain, given subcutaneously, will give great relief without producing bad symptoms.

RICHARD NEALE, M.D.

6255. *Werner on Sublimate Corrosive and Ichthyol in Diphtheria.*—Dr. Werner, of Narva (*St. Petersburg Med. Wochensch.*, No. 9, 1886; and the *Vratch*, No. 12, 1886, p. 222), treated his last seventeen (mostly severe) cases of diphtheria by corrosive sublimate and ichthyol, and lost only two patients who had come under his care on the eighth and tenth days of the disease, two and six hours before death respectively. The remaining fifteen made good recoveries, an improvement being usually marked from the third day of treatment. Corrosive sublimate was given internally, in the shape of a solution administered by small portions every twenty or thirty minutes, so that the whole was taken by the patient in twenty or twenty-four hours. The daily portion was ¼ grain in four ounces of water to a child of eighteen months; ½ grain in six ounces to a child aged 6 or 7; ¾ grain in six ounces to an adult. Ichthyol was rubbed into the swollen glands, three or four times daily.

6256. *Slesarevsky on Corrosive Sublimate in Anthrax.*—In the *Russkuia Meditzina*, No. 30, 1886, p. 508, Dr. A. Slesarevsky writes that, during his practice in the Kherson district in 1883-86, he saw sixty-three cases of anthrax. Two of the patients were brought on the sixth and seventh day of the disease in a hopeless state, and soon died. The remaining sixty-one recovered. One of them, with facial anthrax of three days' standing, was treated after Raimbert-Jarnovsky's plan. Five cases (two of facial, three of cervical anthrax of two days' standing) were cured by cauterisation with Paquelin's apparatus. In eleven cases (three of facial, four of cervical, four of otherwise situated pustule of two and three days' standing), excision and powdering with salicylic acid were practised. In the remaining forty-four cases (thirteen of facial, fourteen of cervical, and seventeen of otherwise situated pustule of one to five days' standing), excision and powdering with corrosive sublimate were employed. 'Corrosive sublimate,' the author says, 'is as radical a means for malignant pustule, as quinine for malarial fever.' He cuts away 'superficial hard parts of the slough,' and then freely powders the whole cut surface and the adjacent healthy parts with pulverised corrosive sublimate, using from half a drachm to two drachms for the purpose. Œdematous parts (in the neighbourhood of pustule) are smeared with grey mercurial ointment. Then an ordinary dressing with carbolised oil is applied, and either quinine or salicylate of soda, and an acid drink, are administered internally. A grey browny slough is found on the next day. In about ten days the slough falls off, leaving a rapidly healing surface covered with excellent granulations. Dr. Slesarevsky never saw any slightest symptom of poisoning by corrosive sublimate used in that truly heroic way.

6257. *Dübelir on Ichthyol in Rheumatism.*—In the *Meditz. Obozr.*, No. 12, 1886, p. 1124, Dr. Dmitry J. Dübelir, of the Moscow Military Hospital, writes that he administered ichthyol in the shape of ichthyolic ammonia internally (from 15 to 25 drops) in a wineglassful of warm water; or in pills containing 0·1 gramme each, from 6 to 12 pills a day; or in capsules containing 25 centigrammes each, from 3 to 6 pills daily: and externally (to paint twice daily) in eleven cases of acute and chronic articular rheumatism. Pain invariably disappeared, but articular swelling remained unaltered. To prevent the formation of pustules from the application of ichthyol the author advises to carefully wash the parts with warm soap-water both before and after each painting. [In an editorial note, *loc. cit.*, Dr. V. F. Sprimon states that the best preparation of the drug is Merck's sulpho-ichthyolate of lithia, which he successfully used in gouty swellings as well as in other cases.—*Rep.*]

6258. *Morozoff on Carbolic Acid in Anthrax.*—In the *Ejenedelnaia Klinitcheskaia Gazeta*, Nos. 6 and 7, 1886, Dr. Dmitry Morozoff describes four cases of anthrax, in one of which—in that of a peasant, aged 36, with a five days' pustule in the right zygomatic region—he first cauterised the main focus with caustic potash, and then treated for twenty-six hours by carbolic injections. Twenty-eight (Luer's) syringefuls of a 3 per cent. solution were used. Since not the slightest local improvement was visible, whilst the patient grew dangerously weak, the author gave up the injections and again resorted to an energetic use of caustic potash. The man left the hospital ten days later, being well. In another patient—a peasant, aged 41, with four pustules on the left hand and forearm of 4 to 6 days' standing, and with extreme adynamia—only cauterisation was employed. He could be safely discharged (according to his request) on the fourth day of treatment. A third case, referring to a peasant, aged 22, with a five days' pustule of the left forearm, was treated like the first. No improvement whatever was obtained from twenty-six syringefuls of the carbolic solution. The patient left well four days after an energetic cauterisation. The fourth patient, a burgess, aged 26, with a seven days' pustule of the right forearm, was treated and cured by carbolic injections alone. During six days seventy-six syringefuls of a 4 per cent. solution were injected. The man was discharged on the ninth day of treatment. The author draws the following conclusions from his cases. 1. The treatment of anthrax by subcutaneous injections of carbolic acid is far from being a reliable method. Moreover, the injections are painful, pain lasting sometimes for two hours. 2. Carbolic injections may be resorted to only when adynamic symptoms (small and weak pulse, quickened and shallow breathing, giddiness, anxiety, extreme prostration, restlessness, &c.) are absent. 3. In all severe cases—that is, in the presence of dangerous adynamia—cauterisation of the whole infected region must be practised without any delay. The best method is cauterisation with caustic potash in rough powder, after making small incisions crossing in various directions; warming compresses should also be applied. Those measures may be advantageously supplemented by hypodermic injections of a 2 or 3 per cent. solution of carbolic acid into the œdematous region. In late stages, however, every plan of treatment is but of small value. Fortunately—at least, so far as Dr. Morozoff's practice is concerned—hopeless cases are rarely met with. During his practice in Krasnoslobodsk in 1881-83 he came across fifty cases of malignant pustule, and lost only three patients.

6259. *Levantüéff on Carbolic Acid in Anthrax.*—Dr. Mikhail S. Levantüéff, chief physician to the Omsk Military Hospital, communicated (*Proceedings of the Omsk Medical Society*, No. 2, 1885, p. 24) a case of facial anthrax where he successfully employed Dr. Jarnovsky's method of treatment (*see* the LONDON MEDICAL RECORD, November 1884, p. 499). A strongly-built tanner, aged 26, was admitted on the fourth day of the disease, with a pustule in the middle of his right cheek, with large œdematous pastous swelling of the whole right half of the face and neck, general weakness, &c. The pustule was covered with a black, dry slough, about two centimètres in diameter. Six syringefuls (Pravaz) of a 2 per cent. solution of carbolic acid (that is, two grains of the acid) were immediately injected around, and in two fingers' breadth from, the scab. The injections were repeated several hours later, as well as twice on the next day and once on the third, when a decided improvement in the general state and diminution of the facial swelling took place. A steady recovery ensued. The scab fell off about two weeks after the last injection. The man left the hospital after twenty-two days' stay. On examination about three weeks later, a scarcely visible, quite superficial little scar was found. In the course of a discussion to which Dr. Levantüéff's paper gave rise, Dr. N. A. Lebedeff reported his case of facial anthrax in an elderly Tartar woman, where he successfully used constant compresses soaked in a 5 per cent. solution of carbolic acid, and simultaneously administered the latter internally, in the daily doses of six grains. Dr. N. A. Tüberovsky cured a case of thoracical anthrax in a woman by painting with concentrated carbolic acid and giving internally large doses of quinine; the patient had come under his care five days after the appearance of pustule. Dr. N. J. Pakholkoff treated six cases of the disease by cauterisation with red-hot iron and the administration of large doses of quinine. All his patients recovered. According to his statement, cauterisation of 'Siberian plague' by a red-hot nail is largely in vogue amongst working people handling felts in Petropailovsk and Tara. Dr. M. G. Sokoloff narrated his experience in regard to the treatment of anthrax by deep cauterisation with solid nitrate of silver. Of his seven cases, only three ended in recovery. [Drs. Strizover's and Schaeffer's papers on the subject may be found in the LONDON MEDICAL RECORD, May 1885, p. 192, and October, p. 438.]

6260. *Indütnyi on Carbolic Acid in Anthrax.*—In the *Russkaia Meditzina*, No. 26, 1886, p. 445, Dr. P. Indütnyi, of Konstantinograd, details six cases of malignant pustule, four of which he treated by incision, cauterisation (with either concentrated hydrochloric acid, or fuming nitric acid, or red-hot iron), and subcutaneous injections of a 2 per cent. solution of carbolic acid; one, by incision, cauterisation with fuming nitric acid, and subcutaneous injections of salicylic and carbolic acids; and one, only by incision and cauterisation with solid nitrate of silver. The patients were peasant women, aged 19, 27, 36, and 5, and men, aged 35 and 50. In two, the pustule was situated on a finger; in one, on the lower eyelid; in one, on the lower lip; in one, on the right shoulder; and in one, near the left nipple. They were seen on the first (three cases), second, third, and fifth day after the appearance of pustule. The number of injections (syringefuls, Pravaz), was thirteen, six, eight, ten, and four (two of the latter being of salicylic acid). Five patients recovered, the slough falling off on the fifth, tenth, fourth, and fifth day of the treatment. One patient, a woman, aged 27, with a labial pustule, died on the fifth day of the disease and the third of the treatment (by carbolic injections, &c.). Dr. Indütnyi thinks that a favourable issue in four cases must be ascribed chiefly to the use of carbolic acid. In one of the cases (in a child) he injected at first two syringefuls of salicylic acid (as recommended in the *Zemskaia Meditzina*, Nos. 35 and 36, 1886, by Dr. P. Gonīaëff, whose formula is ℞ Acidi salicylici, gr. xv.; spir. vini rectif., ℥ij.; aq. dest., ʒvj. MDS. To use after warming). A marked local improvement followed on the next day. Still, the author preferred to pass to carbolic acid, since the use of salicylic acid presented the inconvenience of being kept in solution only by warmth; on the slightest cooling it gave a precipitate, which blocked the needle of the syringe.

6261. *Prokhoroff on Tar-Dressing.*—In the *Vratch*, No. 29, 1886, p. 330, Dr. P. Prokhoroff, of the Zemskaia Infirmary in Jamburg, writes that he successfully uses, as an antiseptic dressing, gauze bandage soaked in tar and applied in several layers. The dressing is not changed, but daily painted with tar by means of a brush. It does not irritate the wound. To remove the tar-bandage it is only necessary to moisten it with tepid water. Union takes place pretty rapidly; cases run their course without fever, or nearly so. Dr. Prokhoroff recommends giving his tar-dressing an extensive trial.

6262. *Vladimiroff on Acetate of Alumina in Dysenteria.*—Dr. Ivan P. Vladimiroff saw (*Proceedings of the Omsk Medical Society*, No. 9, 1885, p. 174), during a recent epidemic of dysentery in Omsk, very good results from treating by enemata made of a 2 per cent. solution of acetate of alumina, and administered in the dose of two to four glassfuls several times a day. The enemata rapidly soothed tenesms and arrested blood-discharge. In subacute or chronic cases, however, the author obtained better effects from rectal injections of nitrate of silver.

6263. *Pakholkoff on Nitrate of Silver in Faucial Diphtheritis.*—Dr. Nikolai J. Pakholkoff, of Omsk, speaks highly (*Proceedings of the Omsk Medical Society*, No. 11, 1885, p. 188, and No. 11, 1884, p. 123) of the treatment of faucial diphtheritis by an energetic cauterisation with nitrate of silver in substance, and subsequent painting with a mixture of equal parts of perchloride of iron and glycerine. Simultaneously he prescribes frequently repeated gargarisms with chlorate of potassa, bromide of potassium, and salicylate or benzoate of soda. A case of a woman, aged 37, is given in detail. The pseudo-membrane fell off on the next day after the cauterisation; redness and swelling of the tonsils disappeared on the sixth day of treatment. Dr. Pakholkoff speaks strongly against any forcible separation (tearing away) of diphtheritic membranes, which procedure 'may only favour their reappearance, almost always intensifies the morbid process, and leads to dangerous consequences.' When a high fever is present, quinine or salicylate of soda, internally or in enemata, are indicated to obviate dangerous cardiac and other complications. In children, feeding (best through the rectum) is of the utmost importance.

6264. *Holst on Morphia and Chloral in Tetanus.*—Dr. Holst, of Riga, describes (*Proceedings of the Riga Medical Society*, 1885, p. 371) two cases of rheumatic tetanus in which, at an advanced stage, morphia in three-centigramme doses, alternately with chloral in three-gramme doses, was administered every two hours for six and nine successive days respectively. Later on, the daily dose of morphia was reduced to six centigrammes, and that of chloral to five grammes. Both of the patients recovered, one in three and a half weeks, another in four. Dr. Holst states generally that only the above treatment proved successful in his hands, all other means invariably failing. The author details, also, a case of a man who, having received a wound of the left supra-orbital edge in a fight, was admitted with trismus and tetanus of seven days' duration. On examination the wound was found painless, but close to the left internal canthus there was detected a sensitive spot, the pressure on which could immediately give rise to a violent tetanic fit. The latter invariably commenced with a forcible inspiration and absolute stoppage of the respiration. On return of respiratory movements, tetanic rigidity of muscles disappeared, only trismus remaining. The patient suddenly died on the tenth day (of disease) from a spasmodic contraction of the diaphragm. No neuritis was found.

6265. *Afonsky on Euphorbium Peplis and Pilocarpine in Hydrophobia.*—In the *Russkaia Meditzina*, No. 24, 1886, p. 411, Dr. Afonsky, of Smolensk, publishes the following case. In winter 1881-82 a mad dog bit a boy and the author's dog (setter). A month later the boy died from hydrophobia, while several days afterwards, all symptoms of rabies appeared in the author's setter. The latter soon bit the foot of the author's man-servant (who had entered the room barefooted). When he heard of the accident on the next morning, Dr. Afonsky cauterised the wound with hydrochloric acid, gave the man a powder of *euphorbium peplis*, and injected under the skin one-sixth of a grain of hydrochlorate of pilocarpine; on the following day he again injected one-fourth of a grain of the alkaloid, which this time produced, beside usual profuse perspiration, also salivation and diarrhœa. Since the man refused to have any further injections, the author ordered Russian baths and tea with rum (six glassfuls daily) for the next two days. No hydrophobia had appeared, four years having elapsed since the accident.

6266. *Glinsky on Hypodermic Injection of Liquor Ammoniæ in Acute Alcoholism.*—In the *Russkaia Meditzina*, No. 30, 1886, p. 507, Dr. A. G. Glinsky, of the Alexandrovskaia Infirmary in Kharkov, emphatically recommends the treatment of acute alcoholism after a somewhat modified method of Dr. Hamilton's (*vide* the *Lancet*, Aug. 2, 1879, p. 157). The plan consists in hypodermically injecting into the epigastric or dorsal region a mixture made of one part of liquor ammoniæ and of from six to two parts of water. A syringeful is injected, after which the author rubs the spot of the injection for one or two minutes. Except local erysipelatous redness and pain, no drawbacks are observed. Analeptic effects are as rapid as brilliant. Dr. Glinsky quotes a case where the patient was brought seemingly in a hopeless comatose state, but recovered full consciousness in three minutes after the injection of liquor ammoniæ, all ordinary means having previously failed. V. Idelson, M.D.

6267. *Ory on the Treatment of Erysipelas by Carbolic Acid Spray.*—The employment of carbolic acid in the treatment of erysipelas has been recommended for some time past. At a recent meeting of the Société Medico-Pratique, Dr. Ory communicated the two following cases which serve to demonstrate the efficacy of carbolic acid spray, which were in these instances the only treatment used. The first case was that of an infant of three months' old, suffering from erysipelas following vaccination. A fortnight had elapsed since vaccination when Dr. Ory was summoned. The little patient was feverish, depressed, and exhibited convulsive movements. The right arm was tumefied, there was a red patch about the size of the palm of the hand, in the centre of which was a vaccine pustule, covered by a scab, in process of desiccation. Collodion and castor-oil were applied to and around the red patch in order to check the spreading of erysipelas, and an antispasmodic treatment was followed during the night. Finding the collodion applications ineffective in preventing the spreading of the redness, Dr. Ory had recourse to the treatment indicated by Prof. Verneuil. The child was wrapped in cotton-wool; carbolic acid spray was then applied during five minutes; 2 per cent. solution was used. There was considerable improvement, the convulsive movements ceased, diarrhœa disappeared, and temperature fell. On the following day only those parts where the collodion still remained were red; it was removed, and by the evening all traces of erysipelas had vanished. Rapid recovery without any relapse ensued. The number of applications of the spray was gradually reduced (4 in the 24 hours of the fourth day), and all treatment was ceased on the fifth. The second case was that of an old man, aged 69. The patient was ataxic, subject to obstinate constipation. The peritoneum and gluteal regions were attacked by erysipelas. The carbolic acid pulverisations applied in the case above-mentioned had a satisfactory result. From the first evening the pain diminished after each pulverisation, and on the third the tissues had almost recovered their normal colouring; there was less fever. Dr. Ory concluded by stating his opinion that antiseptic carbolic acid pulverisations may be used, to the exclusion of all other internal treatment, for combating erysipelas.

6268. *The Preparation of Antifebrine.*—Antifebrine is prepared by heating aniline with crystallisable acetic acid in a special receptacle. It is distilled and purified by successive crystallisations. It takes the form of a white crystalline powder, having no odour and a slightly sharp taste. It is almost insoluble in cold water, easily soluble in warm water, and especially so in alcohol and liquids. It melts at 113° C., and distils at 292° C., without decomposition. It is neutral and resists the greater number of reagents. The action of antifebrine is four times more powerful than that of antipyrine. Many observers have tested its power in cases of typhoid fever, erysipelas, acute muscular rheumatism, phthisis, lung abscesses, fevers (leucæmia, pyæmia, septicæmia), and pneumonia. Antifebrine has been administered in doses of 0·25 gramme to 1 gramme in brandy, wine, or wrapped in wafer-paper. A dose of 2 grammes has never been exceeded by Cahn and S. Hepp, who are studying this drug; but it can be increased without inconvenience, according to the nature, acuteness, and length of the complaint. The action of this substance manifests itself at the end of an hour, attains its maximum after four hours, and ceases, according to the dose, in the space of from three to ten hours. Antifebrine lowers the febrile temperature without exercising any influence on the normal temperature, and, according to various authorities, it does not present any of the disadvantages arising from different antipyretics. It occasions redness of the face and profuse perspiration. No shivering has been observed in consequence of increased doses, though in some cases, as with antipyrine, patients have experienced a sensation of cold. With a lower temperature succeeds a noticeable diminution in the beating of the pulse, accompanied by an increase of arterial tension shown by sphygmographic tracings. In a few cases, patients have been affected with excessive thirst, and diuresis has been considerably increased (2,500 to 5,500 cubic centimètres). In cases of muscular rheumatism, antifebrine has produced a decrease of pain and fever very rapidly. The only embarrassing symptom which occurred when antifebrine was first administered was cyanosis of the face and extremities with some patients, a phenomenon which gradually disappeared and left no cause for anxiety. According to Cahn and S. Hepp, antifebrine is highly to be recommended in clinical medicine, owing to its energetic action when given in small doses, also for its harmless effects on the stomach and for its cheapness.

6269. *Arthaud on the Therapeutic Action of Tannin in the Treatment of Tuberculosis.*—At a recent meeting of the Biological Society, M. Arthaud made a communication with regard to his researches, in conjunction with M. Raymond, on the etiology and treatment of tuberculous affections. Three substances employed had given satisfactory results—1, sulphide of carbon; 2, iodoform; 3, tannin. Experiments had been made on rabbits, which were submitted to the action of the above substances, and examined at the end of a month in order to ascertain whether they were in a state to be affected by tuberculous inoculations. No very decided results accrued from the use of iodoform or sulphide of carbon, probably owing to the method employed for introducing these substances into the organism; but with tannin the results were very remarkable. Six rabbits were treated for a month with doses of tannin, varying from 50 centigrammes to 1 gramme. In spite of two successive inoculations, one effected with a pulmonary substance taken from a guinea-pig which had died from acute tuberculosis, the other inoculation with miliary tubercles from a hospital patient, no trace of infection was observed, whilst three other rabbits to which tannin had not been given succumbed in consequence of the inoculations. These experiments seem to have suggested a therapeutic treatment which has been adopted in over fifty cases with excellent results. Tannin was administered in doses of from 2 to 4 grammes a day, and the improvement was visible at the end of a fortnight; the patients had increased in weight, and no relapse occurred. In cases of acute tuberculosis, both in children and adults, it sometimes happens that the symptoms appear more favourable, and at the end of a week or a fortnight the condition of the patient improves, even when fatal results have already been apprehended. From these experiments the following conclusions may be drawn. 1. That tannin is preferable to sulphide of carbon or iodoform in the treatment of tuberculosis. 2. Animals placed under this treatment for a month show great resistance to the action of tuberculous virus.

6270. *Labastide on Peptone.*—Dr. Labastide, in the *Gazette des Hôpitaux*, Oct. 30, publishes notes of cases showing the good effects of peptone. The first case was that of a widow, over 80 years of age, of robust constitution, sanguine temperament. She presented hemiplegia on the right side; partial aphasia following cerebral effusion, which dated from more than thirty years back; all the functions were in good order. In the spring of 1884 another cerebral attack took place. The symptoms disappeared under the influence of internal and external derivatives. In 1885 a third attack took place, which lasted longer than the preceding one; paralysis became more pronounced, aphasia more complete, and deglutition more painful, without any local change in the throat. The patient refused all nourishment. When obliged to take any sort of food, either solid or liquid, she immediately vomited it. Pure water, sweetened or aërated, was immediately thrown up. Everything was vomited. At the end of six months the patient was extremely feeble. M. Labastide then decided to administer peptone. Injections of 20 grammes of peptone Dufresne, mixed with 60 grammes of boiled milk, were administered; ordinary broth was occasionally substituted for milk. At the end of twenty days of this *régime* the patient had recovered from her state of prostration. The stomach retained water and even milk, when administered in small doses at rare intervals. Twenty grammes of peptone, mixed with a little tapioca, were then administered three times a day. Fifty days after this treatment the patient, though still paralysed, had recovered her former condition, and even began to grow stout. At the beginning of the year the patient was enabled to re-resume her repasts. At the end of March she succumbed to a fresh cerebral attack. The second case was that of an infant of nine months, of an extremely feeble constitution. At the cutting of the first tooth symptoms of inflammation of the intestines appeared, and consumption progressed rapidly. Aphthæ of the mouth prevented the child from taking the breast. M. Labastide then had recourse to peptone, which was administered in injections of 20 grammes of milk with 10 grammes of peptone Dufresne. A drop or two of laudanum was occasionally added. The little patient was nourished in this way for two months, and gradually strengthened. At the end of this time the infant was able to take peptone, mixed with weak milk taken from its mother, or with tapioca. Complete recovery ensued; the symptoms of cachexia disappeared, after five months' use of peptone Dufresne, under the conditions described. The third case was that of a child of nine years old; fairly good constitution, nervous and lymphatic temperament. It had measles, scarlet fever, slight attacks of ague, and suppressed typhoid fever. The patient presented every symptom of anæmia—pallor, palpitations, headache, swollen glands on the neck and other regions, exostosis on the crista of the two tibiæ. Every medical and hygienic treatment had failed to improve this condition. Peptone was then administered in doses of one, and subsequently of two, tablespoonsful. At the end of a few days the tumours in the legs began to disappear, the swelling of the glands diminished, the little patient recovered his strength and colour, could use his limbs without effort, and recovered his appetite. Headache and palpitations disappeared. The child still makes use of peptone, and is now cured. Hardly any traces of the glands remain. W. Vignal.

6271. *Bordè on Jequirity in the Treatment of Chronic Granular Metritis.*—Bordè gives the following case. Vulva and vagina hyperæmic and hyperæsthetic. Uterus enlarged, painful to the touch. The cervix enlarged, congested, covered with fine miliary granulations, a plug of dense mucus in the canal. The sound was passed with pain, and caused slight bleeding; the cavity of the womb was slightly enlarged. These symptoms had lasted three years. The vagina and the cervix were thoroughly cleansed with a solution of 5 per cent. of sulpho-carbolate of zinc, and then 1·50 grammes of a 1 per cent. solution of jequirity injected into the cavity of the uterus. The piston of the syringe was then drawn out so as to aspirate the solution from the uterine cavity. The cervix was then painted with the same solution. After about twelve hours, uterine pains appeared, with some fever, which lasted four days and never exceeded 102° F. Micturition was painful; there was no discharge from the vagina. The patient was up at the end of a week, and then appeared a slight catarrhal discharge. After ten days the cervix was found diminished, rosy, and covered with young epithelium, the external os covered with dense catarrhal mucus. The sound passed without pain, and no bleeding; the uterine cavity was of normal extent. The period came on after a few days, and was normal in quantity and duration. This had not been the case throughout her illness, and the period before had lasted twenty days. The patient some months after was in perfect health.

6272. *Destruge on Panama Fever.*—Dr. A. Destruge says this fever is not yellow fever, nor is it 'bilious remittent fever.' The urine does not contain albumen, and there is no jaundice, or it only appears just before death. Dr. Ulloa says it presents the same symptoms as the fever known in Peru as the 'Fibre de la Oroya,' which appeared under much the same conditions when the Trans-Andine Railway was in progress, and which the unfortunate student Carrión proved on his own person, by inoculation, to be the same disease as the 'Verruga,' which has been known ever since the Spanish conquest of Peru.

6273. *Souza on Lowering of the Temperature in Fever by the Ambient Air.*—Dr. A. de Souza recommends this method of reducing the body temperature in fevers, especially typhoid, hectic, and tubercular fever. In winter he keeps the room in which the patients are at from 8° to 10° C., the only bed-covering being a sheet and one blanket; if towards the end of the night the temperature of the room or of the patient falls considerably, something extra is thrown over the feet. The higher the fever, the lower is the temperature of the room to be kept. If the air of the room be gradually cooled, the patients either do not notice or soon become accustomed to the fresher atmosphere. In summer even, much may be done by proper ventilation and by diminishing the bed-clothes. Cold lotions and baths may also assist.

6274. *Graselli on Hypodermic Injections of Strychnia in some Cases of Amblyopia.*—Graselli finds that hypodermic injections of strychnia are useful, leading to lasting improvement even in those cases in which there is incipient atrophy resulting from neuritis. True atrophy of the optic nerve may be arrested as long as the organism is under the influence of the remedy. This is more prompt and lasting when the material alterations are slight and recent. It is best to begin with an injection of one milligramme, increasing it every eight or ten days by half a milligramme. The injection may be made in the temple, or, if it causes much irritation, in the arm. Prolonged treatment often causes insomnia, which, however, promptly yields to chloral.

G. D'Arcy Adams, M.D.

6275. *Garcia on Guachacata.* — M. Crescencio Garcia proposes to substitute for quassia, gentian, quinine, &c., the flowers of a Mexican plant commonly called *guachacata*, and promises further information about the botany of the plant. Garcia prepares a bitter elixir by extracting first with alcohol and then with water and mixing the products; this is done because the plant contains two chief bitter principles, one soluble in alcohol, the other in water. The formula runs thus: Guachacata flowers 30 grammes, rectified spirits of wine 300 grammes, sweet orange peel 15 grammes. Macerate for a week or a fortnight, in sunlight; express; treat the residue with a little boiling water; express; mix the liquids. E. J. Edwardes, M.D.

6276. *Ivanovsky on Chloral-hydrate as a Vesicant.*—Chloral-hydrate possesses the vesicating properties of cantharides without the inconvenient consequences which sometimes follow the use of the latter drug. In order to prepare a blister, a piece of ordinary adhesive plaster is covered with a layer of finely-powdered chloral leaving a narrow margin. It is then warmed until the chloral melts, which coincides with the discoloration of the crystals. The blister is then ready to be applied, the part selected for the operation having been anointed beforehand with olive-oil or lard. Its action is rapid and almost painless. As soon as a burning sensation is perceived it is time to remove it. No large raw surface is left, as after the use of cantharides, the skin retaining its vitality. Fifteen minutes is the maximum time the blister should be allowed to remain. Left longer than this, or applied to parts which have not been anointed, the skin is apt to be destroyed, as with cantharides.

6277. *Dujardin-Beaumetz on the Treatment of Pulmonary Affections by Means of Gaseous Injections per rectum.*—He alluded to a new method of treatment of phthisis and its allied diseases introduced by Dr. Bergeon, of Lyons, which consisted in the injection *per rectum* of a solution of sulphuretted hydrogen in carbonic acid gas. He pointed out that the method of rectal gaseous injections had already been advocated by Ronzier-Jolly in 1857, and in the same year Claude Bernard called attention to the fact that sulphuretted hydrogen, when introduced *per rectum*, was eliminated by the lungs, but no practical application had been made of either one or the other. Quite recently Dr. Bergeon had made various communications to the Academy of Sciences and elsewhere, showing the advantages to be derived from this treatment in phthisis. Still more recently Professor Cornil read a paper before the Academy of Medicine of Paris, in which he gave details of cases treated by Dr. Chantemesse at the hospital of St.

Antoine by these means. Pure dry carbonic acid gas is passed through a solution of sulphuretted hydrogen or bisulphide of carbon, and thence into a receiver, the greatest care being taken to prevent any admixture of atmospheric air, the result of which would be to produce a tympanitic condition of the abdomen, uncomfortable and even distressing to the patient. A simple but ingenious contrivance has been designed for the purpose of facilitating the preparation of the gaseous mixture. It is necessary to bear in mind in employing bisulphide of carbon the extreme inflammability of this substance and of its vapour, and its dissolving effect on the india-rubber of which the apparatus is in part composed. Iodoform vapours may also be used. Bergeon himself prefers the sulphuretted hydrogen derived by passing the CO_2 through natural sulphurated waters as less irritating. The quantity to be injected varies from two to four litres, about half an hour being required for the introduction of the latter quantity, and the injection may be repeated twice daily. These injections are generally unaccompanied by pain or even inconvenience, provided that the process be not conducted too rapidly; absorption takes place very rapidly by the hæmorrhoidal veins, and elimination proceeds *pari passu* so that none of the gas gets into the arterial circulation. Some very good results are reported as following this treatment even in advanced cases of phthisis, but it does not always cause the disappearance of bacilli in the expectoration. The method is also applicable to asthma and even to whooping-cough.

ALFRED S. GUBB.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

6278. Hale, Dr. E. M.—On the Relations of the Heart and Reproductive Organs in Women. (*Archives of Gynæcology*, August 1886.)

6279. Payne, Dr.—On a Case of Congenital Absence of the Vaginal Orifice, with Delivery *per anum*.

6280. Henkelam—On a Case of Double Tubal Gestation. (*Nederlandsch, Fydsch, V. Geneeskunde*. No. 35.)

6281. Lefort.—On a Case of Uterine Fibroid with (unsuspected) Pregnancy. (*Nouvelles Arch. d'Obstét. et de Gyn.*, October 25, 1886.)

6282. Bubendorf, Dr.—On a Case of Extra-uterine Pregnancy with Elimination of Fœtal Remains per rectum five months later. (*Ann. de Gyn.*, October 1886.)

6283. Welker, Dr. J. W.—On the Use of an Abdominal Bandage in the Second Stage of Labour. (*Therapeutic Gazette*, Sept. 15, 1886.)

6284. Hergott, Dr. A.—On an Epidemic of Boils in the Lying-in Hospital at Nancy. (*Annales de Gynécologie*, September 1886.)

6285. Guelliot, Dr.—On a Case of Wound of the Fœtus in Utero by Stab Wound of Mother. (*Archives de Tocologie*, Aug. 30, 1886.)

6286. Leon, Dr. F.—On a Case of Obstinate Vomiting of Pregnancy Cured by Injections of Chloral Hydrate. (*Anal. de Obstet. y Pediatria*, April 1886.)

6287. Fischer, Andrei R.—A Note on the Significance of Retention of Fœtal Membranes. Materials for the Question of so-called Auto-infection of Puerperal Women. (*Vratch*, No. 35, 1886, p. 625.)

6288. Khlamoff, V. I.—On Spontaneous Fracture in Pregnancy. (*Ejenedelnaia Klinitcheskaia Gazeta*, No. 2, 1886, p. 47.)

6289. Ott, Professor Dmitry O.—On the Significance of Lochia in Relation to the Use of Antiseptic Means in Obstetrics. (*Vratch*, No. 27, 1886, p. 485)

6290. Löhlein.—A Case of Subacute Oöphoritis cured by Oöphorectomy. (*Deutsch. Med. Wochensch.*, No. 38, 1886.)

6291. Clibborn.—A Case of Diphtheria of the Vagina. (*Lancet*, November 1886.)

Art. 6278. *Hale on the Relations of the Heart and Reproductive Organs in Women.*—Previous to puberty little or no sympathy exists between these organs, but towards that period there springs up a wonderful interdependence. It is at this period that the heart begins to beat with new force and frequency, and becomes far more sensitive to influences from within and without than before. Palpitation is apt to occur from slight causes and uncalled-for attacks of localised hyperæmia, as exemplified in blushing. Girls rarely blush before the age of puberty, and the age of true blushing declines after puberty is established. It occurs again during pregnancy, and also at the change of life, for at these epochs the heart is enlarged and its nervous system becomes hypersensitive. At this age he often had patients sent to him supposed to be suffering from heart-disease, and complaining of palpitation, irregular action of the heart, and precordial distress. Medicines were of little avail in such cases. The cardiac trouble in such patients is generally physiological—that is to say, due to influences transmitted to it by the developing reproductive organs. Unless occurring in scrofulous or rheumatic subjects, little medical treatment is called for, the physical habits alone requiring to be regulated. Undue exercise should be forbidden, and the emotional nature should be restrained. Late hours and the too promiscuous mingling of the sexes at balls, &c., should be avoided. If not, a genuine cardiac affection may result. Occasionally a displacement of the womb, a flexion, or a congested or abraded cervix will give rise to cardiac disturbances of great intensity. Ovarian irritation of various kinds has the same effect. It is important, therefore, to eliminate any such source of trouble. The next great epoch in a woman's life, wherein is found a reflex irritability of the heart from the reproductive organs, is during pregnancy. Many women are made aware of conception having taken place by a peculiar action of the heart. All through the period of gestation, palpitation, flushing and blushing, &c., are observed. The enlargement of the uterus and the necessity of carrying on a greatly increased circulation in its walls during pregnancy are attended by a temporary hypertrophy of the heart, mainly affecting the left ventricle. After delivery the heart soon returns to its normal standard. Care in diet, exercise, and dress is therefore necessary during pregnancy, in order to avoid any trouble from this source.

6279. *Payne on a Case of Congenital Absence of the Vaginal Orifice with Delivery per anum.*—The patient, a woman, aged 33, apparently well formed and healthy, had been in labour for thirty-six hours. The waters had broken quite early, and she was completely exhausted by her efforts to expel the fœtus. On examination, the vaginal orifice was discovered to be absent, and the finger, gliding along the perinæum, arrived at a distended anus, just inside which the fœtal head could be felt. The patient was anæsthetised, and the fœtus was delivered with the forceps; no perineal rupture or hæmorrhage followed, and the placenta was removed without difficulty. Five months later Dr. Payne again examined the woman, and found everything normal except the absence of the vaginal orifice. On introducing two fingers along the anterior wall of the rectum, a distance of 5 centimètres, it was found to be continued on to the anterior wall of the vagina, which above this point was normal. Two-and-a-half centimètres below the os uteri the free edge of a membranous partition could be felt. The situation of the uterus was normal. This woman had already given birth to three still-born children. Menstruation had always been regular, and coitus had always been accomplished with ease and satisfaction. No suspicion of any abnormality existed in the patient's mind, nor had any ever been suggested to her on the occasion of her confinements.

6280. *Henkelam on a Case of Double Tubal Gestation.*—The woman was a patient of Dr. Mykamp, and the diagnosis was death from rupture of extra-uterine pregnancy. At the *post mortem* examination he found a large quantity of dark-red fluid, and in the pelvis a softened clot also dark in colour. The uterus, the fundus of which reached to the level of the upper margin of the symphysis, was soft to the feel. The bladder contained a moderate quantity of urine; in searching for the left Fallopian tube, which could not be seen in the midst of the clots, a hiatus of 2 centimètres was found at a distance of 4 centimètres from the uterus; in the same situation on the right side the tube ended similarly in a cyst-like formation, also ruptured, the size of a large walnut. The ovaries were normal. The uterus was then removed with its appendages, and in the middle of a firm clot on the left side the fœtus was found. The interior of the uterus was lined with a well-marked decidual membrane, consisting of two layers. The cyst on the right side contained clots and a fleecy coherent membrane resembling a chorion, together with an umbilical cord 2 centimètres in length, in which three vessels could be perceived. No placenta, properly so-called, could be found. Summing up the report it appeared that the uterus was that of a three-months' pregnancy, and the fœtus and corpus luteum of six weeks. It was supposed that impregnation had taken place three or four months previously, the ovum implanting itself in the left Fallopian tube six or eight weeks prior to the death of the patient; the left sac gave way, giving rise to slight hæmorrhage, which at once became encysted behind the seat of rupture, as evidenced by the presence of yellowish-brown clots. Soon after, the hæmorrhage having ceased, a fecundated ovum became lodged in the right tube, its development arresting the process of involution of the uterus, which must have followed the rupture of the left tube, and exciting in it a further development, so that, with a fœtus of six weeks the uterus had the volume of the third or fourth month of pregnancy. This explanation would have been greatly assisted by the discovery on the left side of a true corpus luteum of older standing to that on the right. Unfortunately that is only probable, the fact not having been satisfactory.

6281. *Lefort on a Case of Uterine Fibroid with (unsuspected) Pregnancy.*—The patient had an uterine fibroid, the presence of which was remarked at a previous confinement by Dr. Tarnier. It was accompanied by certain unusual symptoms and menstrual irregularity which had suggested the possibility of pregnancy. After repeated examinations, as neither the fœtal heart nor movements could be detected, and in view of the mobility of the tumour, together with the possibility of deep palpations above the pubes without finding it, Dr. Lefort ultimately dismissed the idea of pregnancy, and prepared to operate. The patient was anæsthetised, but on palpation prior to commencing the operation, fœtal movements were plainly felt. The inference to be drawn is that in similar cases it is advisable to make an examination under chloroform before deciding that pregnancy may be eliminated.

6282. *Bubendorf on a Case of Extra-uterine Pregnancy.*—The patient, aged 34, had miscarried twice, but was otherwise healthy and well formed. In May 1879 she became pregnant for the third time, and during the first two months she suffered severely from pain in the abdomen, worse on the left side, which obliged her to remain in bed. At the end of the second month, on getting out of bed in order to micturate, after some sharp pains, she felt a soft whitish body come away from her, about the size of a pigeon's egg. The doctor who saw it pronounced it to be an ovum at about the second month, and on examination of the patient informed her that she was still pregnant with a second fœtus. The pregnancy thenceforward took a normal course. At about the fifth month she remarked some indistinct fœtal movements which, however, soon ceased to be perceptible. At term, the midwife who was attending her announced that labour had commenced. After the first pains a large quantity of clear yellowish liquid came away. As labour did not seem to make any headway, a doctor was sent for, who pronounced it to be a case of extra-uterine pregnancy, and advised expectant treatment. During a whole fortnight the patient continued to lose a large quantity of liquid, increased by movement. Tired of remaining in bed, she resumed her domestic duties. The size of the abdomen underwent considerable diminution as the water escaped, but was followed by a sharp attack of hæmorrhage, after which matters went on much as usual. Her breasts became distended with milk, and inflammation set in, resulting in suppuration. A month later, menstruation returned and continued at regular intervals. The symptoms complained of were slight pain in the lower part of the abdomen, some difficulty in defæcation, and a feeling of weight on the left side where, just above the groin, a tumour, the size of the fist, could be felt. Her general health was good, and continued so for five years. In December 1884 her legs became swollen and œdematous, and her periods ceased. The tumour was found in the same situation on the left side, and of the same size. The skin over it was non-adherent and perfectly healthy. The tumour could be felt in the left vaginal cul-de-sac, which was slightly mobile and not tender. She was obliged to undertake a journey to Strasburg at this epoch, and on her return the menstrual flow reappeared, more abundantly than usual. Pain, which rapidly became severe, was complained of in the hypogastric region, and there was rectal tenesmus. The pain was deep, lancinating, and radiated along the rectum and down the legs. The pain and fever lasted ten days, when the patient passed, in a motion, a fœtal rib. As the patient had omitted to mention the existence of an extra-uterine pregnancy this was diagnosed with much surprise. Rectal examination showed the existence some distance up of an irregular cavity, filled with a hard substance not at all like a skeleton to the touch. In the course of the week or two following, various other débris were passed, each being accompanied with intense pain and tenesmus. Ultimately the patient made a good recovery, after a somewhat tedious convalescence.

6283. *Welker on the Use of an Abdominal Bandage in the Second Stage of Labour.*—Dr. Welker used the bandage for a twofold purpose—first, to lessen the sufferings of the patient, in order to effect which he applies it at or before the commencement of the second stage of labour, making it tight enough to be comfortable; secondly, to shorten the duration of labour. To accomplish this end, he tightens the bandage when the abdominal muscles are called upon to assist the uterus in expelling its contents. He employs a bandage resembling in shape the lower half of a corset, except that it is open at the sides and united by means of straps and buckles. It can thus be tightened at will. He publishes reports of ten cases in which he has used it with very satisfactory results, lessening the severity of the pains and accelerating the completion of parturition.

6284. *Hergott on an Epidemic of Boils in the Lying-in Hospital at Nancy.*—A woman was delivered in the hospital, where antiseptic precautions are rigorously enforced, on April 22. On the 24th the back and buttocks were found to be covered with a copious eruption of small boils, which disappeared under the usual treatment in the course of a day or two. On the 28th another woman was confined in the same ward, and on the following day a crop of boils showed themselves on the upper and inner aspects of the thighs and over the gluteal region. Washed with boracic-acid lotion, these subsided. On May 18 the same phenomenon was witnessed in the case of a young woman who was delivered on May 6, successfully treated in the same way, and two other cases occurred, the site of the eruption being the same in every case, on the 15th and 16th of the same month. Dr. Hergott, after investigating the circumstances, arrived at the conclusion that the boils in the cases after the first were attributable to infection conveyed by an imperfectly cleansed bed-pan. This utensil being carefully washed with a solution of corrosive sublimate, no further cases occurred. The possibility of conveyance of infection by such means is evident, and points clearly to the necessity for the greatest care and cleanliness.

6285. *Guelliot on a Case of Wound of the Fœtus in Utero by Stab Wound of Mother.*—The patient was a woman in the eighth month of pregnancy, who was stabbed in the gluteal region. About 2½ litres of sanguinolent fluid escaped, and on the following day she was delivered of a dead child. Dr. Guelliot found on the left parietal bone of the infant an incised wound traversing the bone. The mother was necessarily exposed to serious risk of peritonitis and hæmorrhage, but, curiously enough, she recovered without the slightest untoward symptoms. The wound in the buttock was situated 10 centimètres from the great trochanter. He reproduced this wound on the cadaver, and found that, under similar circumstances, the peritoneum is not injured, but that the sciatic nerve and gluteal artery were liable to damage. The patient in question had some anæsthesia, indicative of injury to the sciatic nerve. The liquid which escaped was probably liquor amnii.

6286. *Leon on a Case of Obstinate Vomiting of Pregnancy Cured by Injections of Chloral Hydrate.* The patient was 38 years of age, strong and healthy, and had already been pregnant five times, vomiting being a constant and severe symptom on each occasion, complicated once or twice by ptyalism. Ice and iced drinks, iced compresses to the epigastrium, were useless, and brandy in small and then in large quantities was equally futile. All the usual remedies were tried without lessening in any way the severity of the sickness, and she ultimately became almost unconscious, and unable to recognise her friends. The uterus was normal in position, and the os uteri was rather thick, but not ulcerated. No improvement followed dilatation of the os. Rectal injections were then administered four times daily, each containing 40 grains of chloral. The patient immediately experienced relief, and at the end of the first day was enabled to sleep quietly. She was kept under this treatment for some days, when she began to clamour for food. She was allowed to choose her dietary, and selected the most indigestible things she could think of; notwithstanding the cure was complete. Alfred S. Gubb.

6287. *Fischer on Retention of Fœtal Membranes.*—In the *Vratch*, No. 35, 1886, p. 625, Dr. Andrei R. Fischer, of St. Petersburg, states that he has met retention of more or less considerable portions of the chorion in forty-two out of 682 (or in 6·2 per cent.) cases of labour. Discussing the etiology of retention, he mentions that (*a*) the phenomenon occurs oftener when the third period of labour is managed after Ahlfeld's method than when Credé's method is employed (7·4 per cent. against 5·7 per cent.); (*b*) in primiparæ the retention is observed twice as frequently as in pluriparæ (9·1 per cent. against 4·9 per cent.); (*c*) an important causal part belongs to chronic inflammatory processes developing in the fœtal membranes, such as endometritis decidualis and choriitis chronica [the author's opinion is well supported by 1. the fact that in twenty-nine out of forty-two cases of the retention, waters either passed too soon (ten cases), or were so slow to pass that it proved necessary to make a puncture (nineteen cases); meanwhile the latter means was required only in 23 per cent. of the remaining cases where no retention occurred; 2. by the fact that the retention occurs more often in premature labours (8·2 per cent.) than in labours at full term (5·7 per cent.)] Passing to treatment, Dr. Fischer observes that in all his forty-two cases of the retention he did not use any other prophylactic means except the administration of ten-grain daily doses of ergot. As a rule, the retained membranes came out spontaneously within four or six days after labour. In four cases (10 per cent.) hæmorrhage occurred, which, however, depended not upon the retention, but upon pre-existing atonia of the womb, or decidual endometritis. In twenty of forty-two cases (47·6 per cent.) no fever was present, in twelve (28·6 per cent.) an isolated rise of the temperature was observed; and only in ten (24·8 per cent.) cases repeated febrile rises occurred. The respective figures for the normal (non-retention) cases which came under the author's observation during the same period were 58, 17·6, and 24·4 per cent. In thirty-two of forty-two retention-cases, slight endometritis was observed; it disappeared under the use of ergot, quinine, and vaginal injections. Basing his views on the facts as sketched above, Dr. Fischer comes to the general proposition that retention of the fœtal membranes is pretty harmless, and cannot give any indication for any therapeutic interference.

6288. *Khlamoff on Spontaneous Fracture of the Humerus in a Pregnant.*—In the *Ejenedelnaia Klinitcheskaia Gazeta*, No. 2, 1886, p. 47, Dr. V. I. Khlamoff, of Verkhneüdinsk, describes the case of a well-built, quite healthy, ruddy, married peasant-woman, aged 26, who for about eighteen months experienced obscure pain in the upper third of her right arm, and on the last month of her third pregnancy, when turning the latch of the gate, suddenly felt that her right upper extremity lost power and became numb. On examining the woman three days later, the author found—to the patient's painful surprise—a fracture of her right humerus at the level of the attachment of the pectoral and deltoid muscles, just below the articular capsule. No pain was felt by the patient during the examination. A light plaster-of-Paris dressing was applied for six weeks. The patient being seen again at the end of two months, there was found still slight mobility with crepitation at the spot of the fracture. All active movements, however, were free, except lifting the arm, when some difficulty was met. Dr. Khlamoff thinks that the pseudarthrosis may disappear in the course of time. The woman never suffered from syphilis, scrophulosis, tuberculosis, or scurvy. Possibly—the author thinks—it was the case of incipient osteomalacia.

6289. *Ott on Microbes in Lochia.*—In the *Vratch*, No. 27, 1886, p. 485, Professor Dmitry O. Ott, of St. Petersburg, states that he, conjointly with Dr. D. O. Kranzfeld, has examined lochia from ten puerperal women, nine of whom were in normal state all through, while one suffered from endometritis with fever (39°·1 C.). No irrigations were made in the healthy women, the external genitals being simply covered with a rag soaked in a solution of corrosive sublimate and twice daily washed out with the same solution. Lochia were obtained, under due precautions, either from the vagina or the womb (on the fourth to seventh day after labour) and then introduced in sterilised gelatine, meat-peptone, sugar gelatine, agar-agar gelatine, and blood-serum to be subsequently kept either in a thermostat at 35°–39° C., or in a room at 19° R. In all but one healthy case, microscopic examination (as far as microbes were concerned) gave negative results. In one of the cases a pure colony of yeast-cells was found, which circumstance was to be attributed most likely to an accidental impurity of the cultivation-medium. In the endometritic case, lochia contained a mass of microbes (cocci, diplococci, streptococci). From his investigation, the author draws the practical corollary that normal lochia are absolutely innocuous to the puerpera and should be left alone; that is, no antiseptic irrigations should be employed.

V. Idelson, M.D.

6290. *Löhlein on a Case of Subacute Oöphoritis cured by Oöphorectomy.*—A single woman, 36 years of age, had ever since her first menstruation in her fourteenth year suffered pain, especially in her left side (*Deutsch. Med. Wochensch.*, No. 38, 1886). During menstruation there was occasional vomiting, and in the intervals the pains continued, especially if she had to stand much. Nine years before she had been treated with mechanical means, which had given some relief for some years; but suddenly the troubles began again. On examination, Löhlein found no organic disease beyond diffuse swelling and moderate sensitiveness of the left ovary, and a lesser degree of condensation of the right ovary. The urine was normal. Percussion and palpation gave no positive result. For some months there was a further rise of body temperature, with increasing pain and sensitiveness to pressure on the left side of the abdomen. She lost weight and strength, and became mentally depressed. A further examination showing the ovaries swollen and isolatedly painful, Löhlein determined to remove the left ovary, whence the pain seemed chiefly to emanate. Both ovaries were thrice the normal size, free from adhesions, and with the epithelium of the surface nearly intact. In the middle of the right ovary there was a hæmatoma. There was cirrhosis. The tubes were free. The temperature sank directly after the operation. In three weeks the patient was discharged, and is now comparatively well; and Löhlein is convinced of the permanent nature of the cure. The operator asked Löhlein if he had ever before met in his practice or reading with similar cases of feverish symptoms accompanying chronic inflammation of the uterus or ovaries, for he himself had several times observed—particularly in young girls suffering from dysmenorrhœa, when there was a suspicion of phthisis, without, however, the lungs being actually affected—that sub-febrile rises of temperature lasted for many years, which still remained a mystery to him. Löhlein and the other members of the Berlin Obstetrical and Gynæcological Society had to confess that no completely analogous case had ever come under their notice. Löhlein, in common with all gynæcologists, had observed perimetric processes accompanied by extraordinary protracted fever. At the time of writing he had, for instance, a patient who had had remitting fever for a year and a half in consequence of a left-sided perioöphoritic process brought on by typhus fever, in spite of a perforation of the rectum having taken place, and although laparotomy had been done and the left-sided appendices had been extirpated. He has experience also of a few cases in which regularly-occurring rises of temperature took place before the menses, there being oöphoritis, perioöphoritis, as well as salpingitis. But he has never before known pure and isolated subacute oöphoritis to be the cause of such obstinate fever symptoms; nor has he found such in the latest works on castration and the removal of the uterine appendages. Certainly Debove has published his observations of hysterical fever, which may be of a similar nature. But it will be necessary to make very exact examinations of all the organs, and particularly of the inner organs of generation, and give very minute data concerning their condition before an obstinate febrile condition lasting for months can be regarded as caused by hysteria.

John Elliott.

6291. *Clibborn on a Case of Diphtheria of the Vagina.*—In the *Lancet*, November 1886, p. 864, Surgeon Clibborn, R.N., records the case of a woman who was scratched on her wrist by her child whilst she was nursing him with diphtheria. Some days after a few isolated inflamed vesicles appeared on the wrist, and implicated the glands at the bend of the elbow and axilla. There was no fever, no affection of the throat, the vesicles soon healing under treatment, when a fresh crop of vesicles appeared around the nipples of both breasts; there was still no rise of temperature, but the patient complained of much weakness. This crop of vesicles soon went away, but the patient complained of increasing weakness, and stated that she had a fœtid vaginal discharge. On making a vaginal examination the mucous membrane was found to be greatly inflamed, discharging pus, and covered in parts with well-developed shreds of false membrane. The constitutional symptoms now rapidly developed, asthenia increased, delirium came on, and she had one well-marked epileptiform convulsion. The urine contained a small quantity of albumen, but the temperature did not rise above 99°·4 F., the throat at no time being affected. The inflammation in the vagina increased daily, and almost complete casts of the vagina were discharged, until the patient was utterly exhausted. About this time there was threatened miscarriage, but this was averted by giving five grains of opium. By degrees the discharge from the vagina became less, and after ten days from its first appearance it ceased altogether. The treatment adopted was as follows. Every three hours a dose was given containing one minim of carbolic acid, ten minims of glycerine, and one drachm of tincture of quinine in an ounce of water. The vagina was frequently washed out with weak Condy's fluid, and strips of lint soaked in iodoform with vaseline were introduced, and changed every few hours. Stimulants and strong liquid food were given in large quantities when the asthenia was great. The patient gave birth to a living child at the full time. Richard Neale, M.D.

PATHOLOGY.

RECENT PAPERS.

6292. Doran.—On Papilloma of the Fallopian Tube and the Relation of Hydroperitoneum to Tubal Disease. (*Brit. Med. Jour.*, Oct. 16, 1886.)

6293. Kidd.—Basic Tuberculous Phthisis. (*Lancet*, October 1886, p. 615.)

6294. Maguire.—Albuminuria in Diabetes. (*Brit. Med. Jour.*, September 1886, p. 543.)

6295. Callanan.—A Case of Spontaneous Cure of Ovarian Tumour. (*Lancet*, October 1886.)

6296. Quill.—A Case of Acute Peritonitis. (*Brit. Med. Jour.*, October 1886.)

6297. Richardson.—Fibrinous Obstructions in the Vascular System. (*Asclepiad*, October 1886.)

6298. Ferraro, Dr. P.—On Three Cases of Porencephalitis. (*Rivista Internazionale di Medicina e Chirurgia*, August, 1886.)

6299. Barr.—The Pathology and Treatment of Dropsy. (*Liverpool Med. Chir. Jour.*, July 1886.)

6300. Soyka.—The Effects of Moisture on Anthrax Bacilli. (*Fortschritte der Med.*, No. 9, Band iv.)

6301. Fränkel, E. and Sänger, A.—On the Etiology of Endocarditis. (*Centralbl. für die Med. Wissensch.*, 1886, No. 45.)

6302. Volkmann.—On Lipoma. (*Centralbl. für Chirurgie*, No. 44, 1886.)

6303. Lewy, Benno.—Observations on the Pathological Anatomy of the Stomach. (*Beiträge z. patholog. Anat. u. Phys.*, Jena, 1886.)

6304. Rauschenbach, F. K.—On a Case of Addison's Disease. (*Vratch*, No. 1, 1886, p. 7.)

6305. Goldenblum, M.—On Koch's Rods in the Suprarenal Glands in Addison's Disease. (*Vratch*, No. 11, 1886, p. 198.)

6306. Krannhals.—On Etiology of Ragsorters' Disease. (*Proceedings of the Riga Medical Society*, May 21, 1886, p. 445.)

6307. Rabinovitch, Moisei F.—Abscess of the Liver, complicated with Hæmatoma. (*Khirurgitchesky Vestnik*, May-June, 1885, p. 359.)

6308. Petit, L. H.—Paronychia and Infectious Osteomyelitis.

Art. 6292. *Doran on Papilloma of the Fallopian Tube and the Relation of Hydroperitoneum to Tubal Disease.*—Papilloma of the interior of the Fallopian tube has hitherto been considered a pathological curiosity. Only one case has been noted (Author, *Trans. Path. Soc.*, vol. xxxi.), in which it gave rise to definite symptoms. A second case has recently occurred, and is described by the author in this paper. In the first case (Bickersteth—Wells), which commenced with symptoms of inflammation of the right ovary, the papillomatous growth distended the tube considerably, but the ostium of the tube remained unobstructed. This unusual condition (the fimbriated extremity being almost invariably closed in all forms of tubal disease) allowed the escape of exudation from the growth into the peritoneal cavity and hydroperitoneum, and, later on, pleuritic effusion, occurred. The diseased tube was removed in April 1879. The effusion into the peritoneum never recurred, and the patient remained free from disease of any kind in 1886. In the second case (Bantock), the patient had been subject for a year to pelvic pain and difficulty in micturition and defæcation. The cavity was filled by a resistant, obscurely fluctuating tumour. There was no free fluid in the peritoneum. The abdomen was opened, and a tumour of the tube containing papillomata was removed; the ostium was entirely closed. A cyst, not containing any kind of growth, lay in Douglas's pouch; it could not be removed. The patient died on the fourth day. Both cases occurred in women who had recently passed the menopause. From certain symptoms observed in these cases, the author has arrived at the following conclusions. Papilloma of the Fallopian tube is either a very rare disease, or has been frequently overlooked. It may, however, exist and produce marked symptoms. A pelvic tumour, which may extend to the hypogastrium, is always present. Pain does not appear to be an essential symptom. The papillomatous growth is not malignant and may be of the character of similar growths observed on the external parts. If so, the disease in question is a special form of salpingitis. The effusion into the peritoneal cavity in the first case, where the ostium of the affected tube was unobstructed, suggests that so-called hydroperitoneum, 'in which there is no organic or tangible disease discovered, beyond the conditions of the peritoneum itself, to which the collection of fluid can be referred' (Matthews Duncan), may frequently be caused by tubal catarrh, where the ostium of the tube remains unobstructed. In rare instances, this catarrh may be due to papillomatous growths on the tubal mucous membrane. In such a case, the tubal catarrh must be of a mild character, for in severe forms the ostium rapidly becomes closed, so as to save the patient not so much from the comparatively harmless 'hydroperitoneum,' but rather from acute general peritonitis. The less irritant discharge in the milder form succeeds in escaping into the peritoneal cavity, through the patency of the ostium, and simply causes peritoneal effusion.

6293. *Kidd on Basic Tuberculous Phthisis.*—In the *Lancet*, October 1886, p. 615, Dr. Percy Kidd describes two cases of phthisis in which the disease commenced at the base of the lung. It is important to distinguish clearly between disease of the base and disease affecting the apex of the lower lobe, *i.e.* that portion of the lung which corresponds to the infraspinous fossa and lower interscapular space. The latter region is very prone to disease, and may be occasionally attacked before the apex of the upper lobe. One case was that of a carpenter, aged fifty, who stated that in November 1883 he caught cold and had shivers, and was confined to bed for thirteen weeks with pains in the back and side, cough, expectoration, and loss of flesh. When seen in March 1884 he was much emaciated, breathing quickly, and his temperature was 103° F. There were abundant signs of cavities at both bases, and, later on, the signs of disease spread to the apices of the lungs. No treatment could do any good to the patient; he gradually sank and died early in July 1884. On *post mortem* examination it was found that the middle and lower lobes of the right lung were completely riddled with thick-walled tuberculated cavities. The upper lobe contained a small cavity at the apex, but was elsewhere spongy, though studded with a few tuberculous nodules. The left lung only contained a few nodules in its upper lobe, but the posterior part of the lower lobe was occupied by a large cavity. The intestines were found to contain tubercular ulcers, and the mesenteric glands were caseous. The second case reported was somewhat similar, but occurred in a young man, aged 21. These cases are very rare, and are the only two of the kind the author has met with out of 412 cases of phthisis in which he made a *post mortem* examination.

6294. *Maguire on Albuminuria in Diabetes.*—In the *Brit. Med. Jour.*, September 1886, p. 543, Dr. Robert Maguire comments upon the frequency of albuminuria as a complication of diabetes. In some cases it is of grave import, and in others it is of no significance. In examining the kidneys of a case of long-standing diabetes, it is seen that there is a considerable amount of interstitial overgrowth; this condition often gives rise to a small amount of albumen in the urine, but it has little or no influence on the course of the diabetes. Fatty degeneration of the kidney may also occur in diabetes, and give rise to an albuminuria which exerts little influence on the progress of the case. Another organic change sometimes noticed, and suggested by the author as a cause of albuminuria, is the thickening of the walls of the bladder, and with this a dilatation of the ureters and of the pelvis of each kidney, giving rise to a mild condition of hydronephrosis, and thus determining an albuminuria. Special attention is directed to an acute form which occurs in connection with diabetic coma, and which is of very serious prognosis. Patients suffering from diabetic coma are nearly sure to have albumen present in the urine. The relation of this albuminuria, and its accompanying kidney change, to the diabetic coma is of great importance. The coma is certainly not uræmic, but has been proved to be due to the circulation of some poisonous matter in the blood. Possibly this poisonous matter irritates the kidneys so as to produce a change in the epithelial cells quite analogous to that produced by a large dose of cantharides; possibly something more than the presence of the poisonous matter in the blood is necessary to produce coma. The author has not made an experimental proof to verify his speculations, and refers his readers to the Bradshaw Lecture by Dr. Dreschfield on this subject.

6295. *Callanan on a Case of Spontaneous Cure of Ovarian Tumour.*—In the *Lancet*, October 1886, p. 672, Mr. Callanan reports the case of a woman, aged 29, who was admitted into the Mater Misericordiæ Hospital, Dublin, with a swelling over the right ovary. It was excessively tender and painful, and gradually increased in size until it extended over the abdomen, the measurement being 43½ inches. On account of the delicate state to which the woman was reduced by the intense pain, it was decided to operate as soon as possible, but a menstrual period being due the operation was postponed for a few days, the woman's strength in the meantime being improved by tonics and good food. She was able to be up and about the ward, until a few days before the date fixed for the operation, when she took to her bed, complaining of intense abdominal pain. After some hours the pain was followed by incessant diarrhœa and profuse diuresis, which lasted four days. At the expiration of this period the abdomen was found to have considerably decreased, and no trace of the tumour was discernible. It was agreed by those who saw her that spontaneous rupture of the cyst had taken place, with effusion of the ovarian fluid into the peritoneal cavity, whence it became absorbed and evacuated by the bowels and kidneys. After this the patient gradually improved, and in six weeks after admission she left the hospital, the abdomen measuring only 29 inches. [Some very remarkable cases analogous to the above are noted in Section 1159: 1 of the *Medical Digest.*]

6296. *Quill on a Case of Acute Peritonitis.*—In the *Brit. Med. Jour.*, October 1886, p. 763, Surg.-Major Quill records the case of a man who was taken suddenly ill with pain in the abdominal region, accompanied by constipation. Next day he was found lying on his back with his legs extended, and complaining of a slight feeling of soreness in the left hypochondrium. There was no abdominal enlargement, and no tenderness. Respiration was greatly increased in frequency, and also the heart's action, but no pulse could be felt at the wrist. The tongue was clean, but cold to the touch. There was no vomiting or nausea, the bowels were obstinately constipated and the urine suppressed; the patient was drowsy, but answered questions coherently. Two hours later death took place without any definite symptoms developing. On *post mortem* examination, the abdominal cavity was found to contain a considerable quantity of sero-fibrinous effusion, the peritoneum was intensely injected, and the intestines were covered with flakes of recent lymph. No perforation was discovered, and no disease could be detected to account for the condition of the peritoneum.

6297. *Richardson on Fibrinous Obstructions in the Vascular System.*—In the *Asclepiad*, October 1886, Dr. B. W. Richardson contributes some practical notes on the diagnosis and on the ammonia treatment of fibrinous obstructions in the vascular system. The author bases his remarks on thirty-six years of clinical observation. The symptoms which definitely indicate obstruction in the *right* side of the heart are: cardiac apnœa; fulness of veins, with or without regurgitant action; feeble pulse, with forcible heart; reduction of animal temperature; pallor; muscular and mental collapse; diminished force of the first sound of the heart, differentiable as to the set of valves impeded. When a fibrinous concretion is deposited on the *left* side of the heart, the ventricle, the infundibulum, and the ascending portion of the aorta are its most common positions. The general symptoms are: suffocative dyspnœa, with expectoration of mucus sometimes mixed with blood; the surface of the body is of a leaden colour, and the body is cold; the muscular perturbation lapses into powerful convulsions, and coma precedes dissolution. The action of the heart is violent, irregular, and tumultuous; the lungs are always congested, and the dyspnœa is not syncopic as if the right side were obstructed, but of a true pneumonic type. The diagnosis of precipitated masses of fibrine in the blood-vessels is sometimes very easy, sometimes difficult; when it takes place in one of the large veins of the leg it is easily recognised, but if within the abdomen, it requires careful manipulation to discover where the deposit is. In one case seen by the author the deposit recurred in the cerebral sinuses. Since 1854 Dr. Richardson has treated every case of obstruction from fibrinous deposit by the free use of ammonia, carried up to the point of causing resolution of the obstructing mass. By this means he has cured many cases which must have died otherwise. In illustration of this statement three cases are given—in two of them recovery was complete, but the third case ended in death. In these cases ammonia is not given because it is a stimulant, but because it resolves fibrine that has been precipitated in the semi-solid form, and retains the fluidity of the blood, at the same time playing the part of an antiseptic. The ammonia is best administered either in the form of the aqueous solution, or of the saturated alcoholic solution. More than five minims at a time cannot be swallowed; it is best given in milk chilled by ice. Sedatives of all kinds are to be avoided, as they excite the heart and then exhaust it. The diet should be, as nearly as possible, of pure milk, with an occasional change to gravy soup, minced codfish, with bread or toast. Complete rest of the body in one position must be maintained, and complete mental rest must also be enforced. When the secondary changes indicate the solution of the fibrine, and its distribution over the vascular system, the ammonia must still be given. The conditions warranting its withdrawal are: entire subsidence of the difficulty of breathing, relief of the tension of the veins, returning fulness of the pulse, normal temperature, restored mental and physical power, steadiness of motion of the heart, with perfect clearness of the sounds. There is no danger to be feared from giving the ammonia too long, and it is better to give it in less frequent doses for a few days after all danger has passed.

RICHARD NEALE, M.D.

6298. *Ferraro on Three Cases of Porencephalitis.*—Dr. Ferraro describes at great length three cases of porencephalitis, and sums up his paper in the following way. 1. In the first case the lesion originated in childhood, and occupied a large part of the sensory motor area of the right hemisphere. In the second case it commenced during fœtal life, and affected nearly the whole of the sensory motor area of the right side, extending also into the parietal and occipital lobes. In the third case the disease also began in fœtal life, and occupied the temporal lobe on the left side. 2. In all three cases the lesion was limited strictly to the region supplied by the Sylvian artery. 3. The histological changes of porencephalitis consist in the complete destruction of the nerve-cells and fibres with the preservation of the neuroglia and of the blood-vessels, and an abundant deposit of pigment, derived, probably, from the destroyed nerve-cells. 4. The three cases of porencephalitis described depend not on any anomaly of development, but on a true pathological process. The cause must consist in an organic weakness of the nervous system, either congenital or acquired, in consequence of which, under the influence of depressing causes, feebleness of circulation, &c., the nervous tissues become disorganised and destroyed. The supposition of a true inflammatory process, or of a primary obliteration of the cortical vessels, cannot be admitted. 5. In the first case, as a result of the porencephalitis affecting the ascending convolutions, there was secondary descending degeneration of the pyramidal and lateral tracts. In the second and third cases secondary degeneration was wanting, because, during fœtal life, the pyramidal tracts are not fully developed. But there was arrest of development of the cerebral hemisphere on the affected side. 6. The symptoms observed during life in the first case were: hemiplegia and hemianæsthesia of the left side except the face, with contracture of the paralysed limbs, especially the arm. 7. Abundant hydrothorax of the left (paralysed) side, with compression and atelectasis of the left lung, was a further consequence (?) of the porencephalitis.

H. HANDFORD, M.D.

6299. *Barr on the Pathology and Treatment of Dropsy.*—For the dropsy of acute Bright's disease hot-air baths are strongly advocated, and early puncture of the legs where the anasarca is great, while benzoate of ammonia is recommended when there are uræmic symptoms. Tapping should be performed early in cases of ascites due to cirrhosis of the liver, while the treatment should be supplemented by active exercise and massage of the abdomen. While in all forms of dropsy it is desirable to keep the bowels unloaded, active purgation often leads to a fatal result from syncope.

6300. *Soyka on the Effects of Moisture on Anthrax Bacilli.*—This is a first instalment of a series of experiments on the influence of local and temporary conditions on the growth of micro-organisms. We recognise in some well-investigated micro-organisms two distinct forms—a vegetative, which is susceptible to external influences, is easily destroyed, while its growth is rapid; and a stationary form, which resists external influences (heat, dryness, chemical action, &c.), and as yet is chiefly known in the form of spores. This is the form, also, by which diseases are chiefly propagated, although they rarely develop as such in living bodies. Difficult vital conditions, the absence of acids, and the nature of the soil, influence the formation of spores. The researches of Koch have rendered the differentiation of the two forms (bacilli and spores) of anthrax quite easy, and hence the author employed these for his experiments. By staining with Ehrlich's anilin-fuchsin solution, washing in alcohol, and again staining with methylene blue, the spores stain red and the bacilli blue. Cultivations were heated to 80° in an oven for three to five hours, by which all bacilli are killed, and only spores could remain. To show that these were only those of anthrax, they were grown on plates of agar-agar jelly at a temperature of 36°, and their form, which is characteristic, examined. As an indifferent medium, quartz sand with particles averaging 2 millimètres, and capable of holding moisture to the amount of 38 per cent. of its volume, was placed in flasks, and moistened with a weak alkaline broth infected only with the bacilli of anthrax. A series of experiments were made to determine what proportion of moisture, under varying conditions of time and temperature, was most favourable to the development of spores. It was found that from 50 to 75 per cent. of the saturation of the soil gave the best results; that when the saturation was 100 to 150 per cent. the spores formed more slowly; while below 25 per cent. they scarcely formed at all.

G. N. PITT.

6301. *Fränkel and Sänger on Endocarditis.*—In a preliminary report the authors give the result of their investigations founded on twelve cases of endocarditis. Only one of these showed the ulcerative malignant form, the rest were all cases of granulation-endocarditis. Bacteriological cultivations of the endocardial products gave positive results in nine cases, in some of which microscopical examination had revealed no bacteria. Amongst known micro-organisms the one most frequently met with (six cases) was the *Staphylococcus pyogenes flavus* of Rosenbach, in one case the only kind found; in other cases accompanied by the *Staph. pyog. alb.* of Rosenbach, and the *Staph. cereus alb.* of Passet. Two hitherto undescribed micro-organisms were met with, one similar to the last mentioned, but which killed mice; the other a bacillus, which killed mice, guinea-pigs, and rabbits. As the result of their investigations, fuller details of which are promised, Drs. E. Fränkel and A. Sänger regard the mycotic character of granulative (verrucoid) endocarditis as proved, and are of opinion that no etiological distinction can be made between the latter and ulcerative (diphtheritic) endocarditis, the difference consisting merely in the greater or smaller number and variety of micro-organisms present. Hence also the differences between the clinical types of the disease.

E. J. Edwardes, M.D.

6302. *Volkmann on Lipoma.*—In the course of a discussion on a paper read by Professor Madelung, of Rostock, in the surgical section at the last meeting of German naturalists (*Centralbl. für Chirurgie*, No. 44, 1886), Professor Volkmann stated that circumscribed lipomata are situated, as a rule, above and rarely under, the superficial fascia. Very different from circumscribed lipomata are the diffused collections of fatty tissue which present no well-marked limit. Volkmann has operated in several cases of this kind of morbid growth. It occurs most frequently in the neck, and is met with in some cases as a normal condition. It has been met with over the great trochanter, and in other parts of the body, being sometimes multiple and symmetrical, and situated as often above as below the fascia. In many instances the form of the fatty mass deviates altogether from the form of the affected part of the body. The diagnosis of circumscribed lipoma situated above the superficial fascia may be readily made by grasping the base of the tumour and raising it from the subjacent parts. Then the surface of the tumour becomes uneven and dimpled, as a result of traction on the bands of connective tissue running from the superficial fascia to the cutis, and of consequent protrusion of the fatty tissue. If the lipoma be situated under the fascia, this symptom will, of course, not be presented.

W. Johnson Smith.

6303. *Lewy on the Pathological Anatomy of the Stomach.*—Dr. Lewy describes two interesting cases of morbid changes in the stomach. The first was a case of poisoning by about 2½ ounces of strong nitric acid, in which the patient, a man aged 23, died after an interval of ten and a half weeks. The symptoms at first were those of corrosive poisoning, and were followed by loss of appetite, thirst, daily vomiting, epigastric pain, and emaciation. Later on there was slight albuminuria, with petechiæ over the chest and abdomen. There was no diminution of the red or white blood-corpuscles, but a slight decrease of hæmoglobin. *Post mortem.*—There was narrowing of the lower end of the œsophagus, with hardening of the mucous membrane of the cardiac end of the stomach, over the whole inner surface of which there were numerous small cysts with clear contents. Along the lesser curvature the mucous membrane was corroded, and the pylorus was narrowed. The cysts were obviously, on microscopical examination, dilatations of the gastric glands. They have been described in two cases of poisoning by sulphuric acid as well as in cases of chronic gastritis. On further microscopic examination the evidences of ordinary inflammation were found in small-celled infiltration of the mucous membrane, and in the corroded parts there were no gastric glands. The second case was one of a man, aged 64, who suffered from emphysema and bronchitis and general arterial degeneration. The symptoms referable to the stomach were very slight, and consisted chiefly in epigastric tenderness. The man was also anæmic and badly nourished. Five days before death he had an attack of hæmatemesis and melæna; he then became gradually comatose and died. The *post mortem* confirmed the diagnosis of emphysema and general arterial atheroma. There was no valvular cardiac disease. The stomach contained altered blood, and the mucous membrane showed a number of ulcers of different sizes, and in the cardiac region localised swellings; in other places, the mucous membrane was thinner than natural, and in some parts discoloured. The condition, then, of the mucous membrane was a general thinning, with scattered ulceration. The tumours noticed proved on microscopical examination to be collections of gastric glands; there was no affection of the lymphatic glands near the stomach or other evidence of carcinoma. The mucosa under the microscope was infiltrated with small round cells, with an increase of connective tissue, in which were numerous 'hyaline' bodies, soluble in acetic acid. The glands had almost completely disappeared, except at the pylorus, and the muscular coat of the organ was atrophied. Lewy explains the hæmatemesis by the presence of large vessels near the inner surface o the stomach, due to the degeneration of the mucous coat.

Sidney Martin, M.D.

6304. *Rauschenbach on Tubercle-Bacillus in Addison's Disease.*—In the *Vratch*, No. 1, 1886 p. 7, Dr. F. K. Rauschenbach, of the Obukhovskaia Infirmary for Women, in St. Petersburg, details the case of a middle-sized and delicately-built maidservant, aged 25, who in October 1884 fell ill with rigor, heat, intense dragging pain in her limbs, and severe dyspnœa, which symptoms compelled her in April 1885 to seek admission to a hospital. After two months' stay, she left the hospital, having obtained some improvement, but soon there appeared dragging pain in the chest and extremities, diarrhœa, and rapidly progressing prostration. On Aug. 14, 1885, she entered the author's hospital. On examination, the whole skin was found to be of a grey-brown 'bronze' colour, the discoloration being more intense over the body (especially in the areolar and lumbar regions) than on the limbs; over the (extremely pale and anæmic 'wax-like') mucous membrane of the hard palate and lips there were scattered pigment-spots of various sizes and irregular forms. Her tongue was moist and covered with a greyish coat. A slight dulness was detected in the suprascapular region. The abdomen was retracted; the liver somewhat enlarged; tendon reflexes lowered. The woman was extremely apathetic, gave but slow answers to questions, and complained of intense pain in her limbs, sickness, and bitter taste. On the fourth day there appeared restlessness, delirium, acceleration of the pulse; about an hour later she suddenly died. At the *post mortem* examination, there were found hyperæmia and œdema of the pia, œdema of the brain, dilatation and dropsy of the cerebral ventricles, numerous punctiform hæmorrhages on the floor of the fourth ventricle, old fibrous adhesions of the pulmonary apices, numerous peri-bronchitic fibroid nodi; anæmia of the spleen, gastro-intestinal mucous membrane, and kidneys, with punctiform pigment-depositions in the latter; enlargement and induration of the mesenterial and retro-peritoneal glands; a large caseous focus in the caudal end of the pancreas; and a considerable enlargement of the suprarenal bodies, the contents of which consisted of partly softened, partly caseous masses. Having examined the latter under the microscope (after staining with solutions of fuchsin in carbolic and aniline water), Dr. Rauschenbach found tubercle-bacilli therein. The number of the microbes varied from six to ten or more in a section.

6305. *Goldenblum on the Tubercle-Bacillus in Addison's Disease.*—In a preliminary note in the *Vratch*, No. 11, 1886, p. 198, Dr. M. Goldenblum, of Professor R. A. Thomas' laboratory in Dorpat, states that he has examined the suprarenal bodies in a case of Addison's disease and, like Dr. Rauschenbach, found Koch's rods therein. This is the case in question, as detailed by the author. A man, aged 24, was admitted in August 1884 to the Dorpat therapeutic clinic with all the symptoms of Addison's disease, death ensuing ten weeks later. The *post mortem* examination revealed a 'bronze' discoloration of the skin and oral mucous membrane, emaciation, pulmonary emphysema, parenchymatous opacity of the cardiac muscle, liver, and kidneys; swelling of the intestinal solitary follicles and portal lymphatic glands; hyperæmia of the spleen and other abdominal viscera; and considerable enlargement and caseous degeneration of both of the suprarenal capsules. The microscopic examination of the latter (after hardening in spirits of wine and staining by Ehrlich's method) detected a large quantity of Koch's tubercle-microbes which 'were grouped in the shape of numerous solitary nests.'

6306. *Krannhals on the Bacteriology of Ragsorters' Disease.*—In a preliminary communication, Dr. Krannhals, of Riga (*Proceedings of the Riga Medical Society*, May 21, 1886, p. 445), describes the results of his bacteriologic examination of the specimens obtained from the Ligat cases of ragsorters' disease (see the previous report). In all the cases, transudations, and blood from the great falciform sinus contained microbes of three varieties. *a.* The rod-shaped bacteria, which were seemingly identical with Koch's bacillus of malignant œdema. They were mostly longer and thinner than the tubercle-bacilli, but thinner than the anthrax-bacilli, and lay either isolated or (very often) two and two, or (sometimes) chained in the shape of long threads. The rods took in stains beautifully when a dry preparation was treated by a concentrated mixture of aniline water with a solution of gentian-violet, and then washed out with water, alcohol, and again with water. On a prolonged treatment with alcohol, they rapidly lost their coloration, and hence could not be seen in the specimens stained after Gram's method. *b.* Saprophytic bacilli, which were present in by far lesser numbers than the preceding microbes. They were short, thick, with rounded off ends, and often chained in the shape of short threads with ovoid terminal limbs. They could be easily and durably dyed after Gram's rules. *c.* Saprophytic cocci, which were scanty in number, lay either isolated or (sometimes) in chains, and could be easily stained after Gram's method. The œdema-rods were found also in various organs, wherein they invariably were most numerous on the internal surface of the capsule, but only scanty in the parenchyma. In the largest numbers they were present in the lungs, bronchial glands, and mediastinal cellular tissue. No rods of the kind could be detected in the spleen. A hypodermic injection of a transudation (from the pleura) into a rabbit was followed by the development of typical malignant œdema, and death on the third day. The results of the necropsy fully corresponded with the descriptions by Koch, Gaffky, and Hesse. Transudations as well as the œdema-fluid teemed with the characteristic bacillus found in the patients with ragsorters' disease. The cultivation-experiments (in agar-agar, after Hesse's method) showed that the microbe obtained was endowed with the same peculiarities in its growth, as described by Hesse. Taken all in all, Dr. Krannhals is inclined to think that Koch's bacillus of malignant œdema represents the pathogenic microbe of ragsorters' disease.

6307. *Rabinovitch on Hepatic Abscess complicated with Hæmatoma.*—In the *Khirurgitchesky Vestnik*, May-June, 1885, p. 359, Dr. Moisei F. Rabinovitch, of the Nikolaëvsky Military Hospital, in St. Petersburg, details at length the case of a well-built scorbutic soldier, aged 21, who was admitted on the fourth day of enteric fever, and in whom a painful and tender enlargement of the liver set in a few days later. The abdominal pain persisted all through for seven weeks, by the end of which time an abscess of the left lobe of the liver was diagnosed, the diagnosis being confirmed by aspirating some sero-purulent fluid from the tumour, by means of a Pravaz's syringe. A week later, Professor K. K. Reyher made (by means of a thermocautery) a vertical incision, 5 centimètres long, in two fingers' breadth to the left from the white line, and in three fingers' breadth from the costal arch. The parietal peritoneum was found to be adherent to the visceral one. The incision into the liver was as long as that into the abdominal wall. About three fluid pounds of a dark brown sanguinolent fluid, containing flocky clots, escaped. Three drainage-tubes, each measuring 10 centimètres in length, were introduced into the cavity, which was washed out with a 2 per cent. solution of boracic acid. The wound was closed with four deep and several superficial sutures, and dressed with sublimatised gauze. Five weeks later, cicatrisation was complete. The abdominal pain disappeared on the next day after hepatotomy. Dr. Rabinovitch failed to find a similar case of hepatic blood-cyst in international literature, though he was able to collect several cases of blood-cyst of the spleen (Moritz's case, described in the *St. Petersburg Med. Wochensch.*, No. 4, 1884), and kidney (H. Bolz, West, Leopold, Spencer Wells, J. Marshall). According to the author's theory of the case, a hepatic abscess developed under the influence of typhoid process; in course of time either a hæmorrhagic infarct in the liver was formed, or a rupture of a hepatic vessel occurred, and, in that or other way, contents of the abscess-cavity became sanguinolent. The latter way is more probable, since the patient suffered from scurvy.

V. Idelson, M.D.

6308. *Petit on Paronychia and Infectious Osteomyelitis.*—M. L. H. Petit made some interesting observations before the Medical Congress at Nancy with regard to whitlow and osteomyelitis. A paronychia involving the bone had partially healed; there was a slight purulent discharge and a small eschar, showing that the lesion was not entirely cured. An apparently trivial inflammation occurred in another region; pus was formed there, and symptoms analogous to those of pyæmia (suppurative arthritis and albuminuria) ensued. These conditions were generally observed in debilitated and cachectic patients, or in those suffering from serious infectious diseases; in this case they were interesting as examples of possible indirect sequelæ of paronychia. They proved, moreover, that in this complaint, which was considered benign, pathogenic microbes might be present, which, under the influence of some unknown cause, could find their way out of the blood-vessels, giving rise to purulent collections and to a serious febrile condition, so that paronychia may sometimes be a true infective osteomyelitis.

W. VIGNAL.

REVIEWS.

ARTICLE 6309.

Diseases of Tropical Climates. Lectures delivered at the Army Medical School. By WILLIAM CAMPBELL MACLEAN, M.D., C.B., Surgeon-General, late of H.M. Indian Army, formerly Member of Senate of the Madras University, Superintendent of Hyderabad Medical School, and Professor of Military and Clinical Medicine in the Army Medical School, Netley. London: Macmillan & Co. And New York. 1886.

GENERAL knowledge and particular departments of science are progressing so rapidly that we sympathise with the Japanese official of rank who, perplexed by the number and novelty of the innovations around him, exclaimed, 'My country is advancing with the speed of a race-horse!' It is an interesting fact that, not many years ago, Dionysius Lardner, in his *History of Steam*, ridiculed the idea of ocean steamers ever crossing the Atlantic; and, about the same time, Lord Byron expressed it as his belief that gas and galvanism ought to be placed in the same category with the hallucinations and ravings of Joanna Southcott! Our forefathers were content, actually and figuratively, to travel at moderate speed, checking progress—on the smallest sign of danger—by firmly 'putting the skid on.' Now, steam-brakes seem scarcely able to stop us; and, with somewhat injured feelings, we behold science, 'our dear old nurse,' wandering away and away from us, at a pace that almost brings tears to our eyes.

It is curious and instructive to apply this train of thought to the subjects with which we are more immediately concerned. Not many years back sanitation was facetiously described by a would-be wit as 'little dabs of doctoring done by different departments.' We ourselves knew, and be it said profoundly respected, a renowned professor of surgery in Modern Athens who used to take wicked pleasure in alluding to *obstetric* surgery as a subject chiefly relating to ingenious devices for expediting the advance of sluggish babies! The same great man was in the habit, with twinkling eye, of addressing his class somewhat as follows: 'Gentlemen,—*Military* surgery (which *some* consider a branch of my subject) chiefly consists, so far as I know, of reminiscences and anecdotes of Ambrose Paré!'

Such sallies of humour, while they excite a smile, have, as a matter of fact, not had the effect of completely extinguishing the subjects referred to. Indeed, uterine and abdominal surgery will be allowed by *some* to have advanced; while military surgery, in spite of the anecdotes connected with it, has steadily attained to the dignity of a subject of supreme national importance, embracing, as it now does, all the special considerations bearing on gunshot and other wounds received in action, the study of modern weapons and projectiles, and of the injuries thereby inflicted, surgical equipment and appliances, the selection and use of ambulances, the transport of sick and wounded, the examination and selection of recruits, the practical working of a trained Army Hospital Corps, and all the surgical arrangements necessary for large armies 'in the field.' The science of practical hygiene is now not likely to be sneered at, except by those whose contempt habitually outweighs their common sense.

Of the vast importance of the sister-subject of military medicine (the scope of which is steadily widening) a doubt cannot for a moment be entertained, when we remember that it specially relates to the study of the diseases incidental to armies, and to the conditions which originate them or materially modify their frequency and fatality. When we bear in mind that no army in the world is so much exposed as that of Great Britain, in the course of service, to the effects of climate in all latitudes, we cannot fail to appreciate the value of such books as the one now before us, which treats of the most important section of military medicine. Tropical diseases account for by far the largest share of the sickness, mortality and invaliding of our Army; and it is this subject that Professor Maclean has now handled with remarkable power and ability. We shall endeavour, in the following remarks, to give an outline of his book. In the first chapter we have a graphic survey of the varied causes which, in past times, were most active in producing terrible death-rates. This is followed by a powerfully-drawn contrast between the old and the new system of transport, barrack accommodation, conservancy, drainage, water-supply, diet, clothing, drill, discipline, recreation, and the management of the soldier in matters connected with temperance, rational enjoyment, and general *morale.* We are glad to see that our author has not forgotten to dwell on the vastly important subject of the condition of the wives and children of our soldiers, and of the causes that injure their health and destroy their lives. We are also gratified to observe that the credit of most of the modern improvements in the sanitary state of our army is freely and very justly accorded to the never-to-be-forgotten labours of the Royal Commission (presided over by the late Lord Herbert) which, a quarter of a century ago, reported with extraordinary foresight and wisdom on the health of the army in India.

Alluding to the days when the British soldier suffered and died by reason of prejudice and ignorance, our author forcibly writes: 'Medical advice' (by which was meant advice on the prevention of disease) said a general whose army was melting away from preventable causes, 'is a very good thing when it is asked for,' which it never was by this commander, whose army in Burmah lost 113, 106, and 130 per 1,000 in the three years 1824-26.

The terrible results of mismanagement, formerly but too common in connection with the transport of troops on long voyages, are thus pithily referred to : 'We read of 170 men dying in the Hooghly in one ship, after such a voyage, between the months of August and January ;' and, again : 'The 2nd battalion of the 42nd Regiment suffered a loss of 5 officers and 116 men between England and Calcutta.' Regarding overcrowding, Dr. Maclean writes : 'I have seen 1,200 men quartered in barracks originally intended for 700.' With reference to dress, he says : 'Within my own recollection the English soldier in India mounted guard in the hottest weather dressed very much as if he had been doing duty in a Canadian winter ;' and, again, with reference to insufficient protection for the head : 'Just before my arrival in India a general officer met with a fatal accident. What took place on the occasion of that officer's funeral is a tradition in that part of India to this day. The parade took place in heavy marching order, the men having as headgear one of the ray-traps already referred to, made after the pattern of the one I now show you. Before the sun rose next day seventeen men were in the dead-house, struck down by insolatio.' The extracts above quoted are fair specimens of our author's vigorous style, and of the thoroughly practical character of his teaching. He can also impart knowledge playfully and pleasantly. Thus (with reference to the experience of travellers as to the necessity for stimulants in severe fevers) : 'Burton, than whom few men have faced more dangers from climate, advises "Ye best wine in ye cellar" ; and, poking a little fun at the dog-Latin of some of our prescriptions, he slily adds, '*non sine tobacco* if that can be enjoyed !'

In connection with the subjects of malaria and malarial fevers, the latest opinions of Kelsch, Léon Colin, Tommasi-Crudeli, Klebs, Valenti, Marchiafava, Laveran and others are impartially and fairly weighed. Careful allusion is made to the conditions under which malaria proved so destructive to our armies in Holland, Spain, Portugal, Egypt, India, Burmah, and China, conditions which are, at the present time, of equal importance in Italy, Africa, and America. Malarial cachexia, the persistence of malarial influences, and the blood changes resulting therefrom are carefully considered. The necessity for the removal of troops only at the most suitable seasons is strongly emphasised ; whilst the subject of the medical treatment of the different types of malarial disease and their complications is gone into with great care. The favourable results of such treatment is thus tersely referred to : 'In the year 1884, the latest statistics that came under my observation, the total mortality from malarial fevers in the European part of the army of India was only 0·02 (representing the death of one man), a mortality nearly seven times less than the average mortality of the last decade ; and this without any diminution in the number of admissions from fevers of this class.' This is certainly very satisfactory as regards the army ; yet the stern fact remains, as lately expressed by an eloquent writer (Dr. Charles Creighton) : 'This fever (malarial), although it never passes from one person to another, is the most universal malady on our globe ; it is the standing dire discouragement of men in their struggle with nature.' After alluding to the spoliative system of treatment of bygone days, our author asserts himself as an uncompromising champion of modern restorative medicine. One of the most useful passages in the book sets forth, with minute accuracy, the diagnostic differences between typical 'malarial remittent' and yellow fever. This will be found at p. 64, supplemented by remarks which occur at pp. 135-6. Similarly, the chief clinical differences between enteric fever and malarial remittent are tabulated at pp. 89-90. The lecture on *enteric fever* brings us boldly face to face with all the difficulties that beset this subject. The etiology, diagnosis, pathology, prophylaxis, and treatment of the disease are discussed with great ability. Dr. Maclean clearly indicates his own personal opinions on different important controversial points regarding the *genesis* of enteric, particularly with reference to faulty water supply. In this connection, he evidently inclines to a belief in the 'specificity' of the disease and of its morbid causation ; and yet he 'admits to the fullest extent the influence of climate, malaria, and it may be other as yet unknown factors in modifying the symptoms, temperature-curve, course and duration of the fever, as well as the lesions found after death.' The allusion to the treatment of enteric fever by turpentine, 'given from the onset of the disease,' is important, and worthy of careful consideration. 'This mode of treatment was very strongly advocated by the late Surgeon-Major Moffit, the brother-in-law and companion of "Chinese Gordon," in the campaigns that made that lamented officer so famous.' The importance of scurvy, and the significance of a more or less latent scorbutic taint in relation to tropical bowel complaints, to beriberi, and to general ill-health and inefficiency amongst soldiers are repeatedly and emphatically insisted on, in different parts of the book (*vide* pp. 6, 163, 165, 268, 269, 310, and 318).

In the chapter on *Insolatio*, we have a very graphic account of what occurred to H.M.'s 98th Regt., on the occasion of the capture of Chin-Kiang-foo, the last military operation of the war in China, under Sir Hugh, afterwards Lord Gough. Dr. Maclean, who was himself an eye-witness of the events, thus writes : 'The regiment arrived at the scene of operations only the day before, having come out from England in an overcrowded transport, under the command of an officer at that time without experience in tropical war. The men paraded for action in one of the hottest days of a hot season, dressed as if for a show parade in Hyde Park ; they had, on landing, to take possession of a steep hill of moderate height. Before they reached the summit, fifteen men died on the spot of insolatio ; they gave a few convulsive gasps, and died before anything could be done for their relief ; many others were struck down, and not a few perished during the night from the same cause, acting in a less rapid way.' Very important observations follow regarding epilepsy as a sequel to sunstroke. In the lecture on *Yellow fever* interesting allusion is made to the former bearings of the slave-trade on the origin and distribution of this disease. Examples of its portability are very properly insisted on, and rules as to its prevention are laid down, derived from a study of its natural history. In connection with the subject of *Relapsing fever*, the significance of the *Spirillum Obermeieri* is discussed. Regarding *Dengue*, we find an excellent summary of the early history of the disease, while its clinical characteristics and treatment are also laid down. Three lectures are devoted to the subject of *Tropical dysentery* and diarrhœa. The most approved modes of treatment and prevention are carefully dwelt on. The story of a 'Queen's

Regiment' almost entirely destroyed, in very short time, by dysentery, is thus graphically alluded to: 'Deeply engraved on my mind is the terrible first occupation of the island of Chusan, in China, in the war of 1840 with that empire. In the month of July in that year I saw the 26th Regiment (Cameronians) disembark on that island 900 strong, in high health and efficiency.' 'The regiment was quartered in the small town of Tientsin, the capital of the island, without the ceremony of any previous cleansing. The result soon appeared: fever and scorbutic dysentery for all war purposes destroyed that regiment in two months; not 200 of the men at the end of that time remained fit to bear arms.' The tracing of such disastrous events to their proper causes, and the moral of all such preventible calamities, is forcibly insisted on by our author. Two lectures are devoted to *Cholera*. Its early history is succinctly but carefully recorded. The various theories as to its causation are discussed, and the latest information is brought forward regarding the different views entertained on the subject of its bacterial pathology. With reference to the propagation of the disease, certain propositions (fourteen in number) are submitted, provisionally, for acceptance, until by observation and practical experience any, or all of them, may be proved to be untenable. These propositions are of great interest, and, although they may possibly be questioned and even opposed, we ourselves—speaking generally—consider them to be valuable and sound; as are also the practical rules laid down in relation to troops exposed to epidemic cholera.

Lecture XIV. treats of *Tropical Liver Disease*, and of the predisposing and exciting causes of acute congestion and of suppurative inflammation. The symptoms, signs, and morbid anatomy of hepatic abscess are very carefully gone into, and illustrated by references to the pathological specimens of great value which are to be found in the Netley Museum. The portion of this lecture which relates to the treatment of hepatitis and of hepatic abscess is admirable. In less than ten short pages, all the essential principles and points of practical importance are set forth with clearness and precision. Lecture XV. has reference to the medical topography, causation, clinical characters, morbid anatomy, and treatment of *Beriberi*. This is followed by a short lecture on *Dracunculus*. The volume concludes with a farewell address to our author's old Netley pupils, which is both affecting and effective.

We have above given but an imperfect outline of the contents of a very useful work—one which we believe will be very acceptable to the profession in general, but more particularly to army surgeons throughout the world, and to all who are specially interested in the study and treatment of tropical diseases. The author has produced a conveniently short, learned, accurate, very readable, and very practical book out of a hard, stiff, difficult, and unwieldy subject. His descriptions of disease are so exact and realistic that reading his account of ague is enough to give one a sense of chilliness down the back. His word-painting of cholera gives rise to certain obscure 'crampy' feelings about the calves of the legs; and after perusing his account of liver ailments we must confess to a painful uneasiness as to the condition of parts situated under our right lower ribs, if not, indeed, to an entire loss of confidence in our own hepatic integrity.

We believe it was Macready, or some other famous actor, who once said that no human delight is to be compared to that enjoyed by the man who leaves a stage on which he is conscious of having acted well. Professor Maclean, when he left Netley, must have experienced a very similar joy. After serving his Queen and country, with earnest fidelity, for nearly half a century, he retired—'Conscious of having acted well.'

D. B. SMITH.

ARTICLE 6310.

Klinik der Verdauungskrankheiten. By Dr. C. A. EWALD, Prof. Univ. Berlin. I. Die Lehre von der Verdauung. Berlin: Hirschwald. 1886.

THIS work, comprising Professor Ewald's lectures to practitioners on 'The Theory of Digestion,' constitutes the first part of his work on the 'Clinical History of Diseases of Digestion,' of which a translation has already appeared in English, and which has now reached a second edition. In the preface to the first edition Dr. Ewald explained that the aim of his work is to collect and adapt for clinical use the numerous and important discoveries in the chemistry of the digestive process which have been made during the last few years, and in a second preface we are told that the author has endeavoured to embody everything of importance regarding digestion which has been recently brought to light. Pathology is here approached by way of physiology, the only way in the opinion of the author, and, it is to be presumed, of all scientific men.

An immense amount of information is compressed into this important volume, which bears about it no stamp of the lecture-room, owing to its condensed style.

The first lecture is perhaps the most deeply interesting of any. After referring to the 'interstitial digestion' (Claude Bernard) of plants and lower animals, Ewald goes on to examine the modern view of oxidation-processes within the body. Not only is the old notion that increased combustion accompanies increased respiration (Liebig), now discarded, but Pflüger and his school have shown that 'the cell takes its share of oxygen from the blood according to its activity, independently of the quantity of oxygen in the blood, as a mill-wheel is fed with more or less water, according to requirement. For the carbonic acid produced increases independently of the oxygen at the disposal of the cell, and may, even in exceptional activity of the latter, reach the feverish condition. The increased oxygen-intake in such conditions is therefore to be looked upon not as the cause but the consequence of increased cellular activity.'

Ehrlich has endeavoured to develop the mechanism of this automatic regulation of the organism in his pamphlet on 'The Oxygen-requirement of the Organism.' Five purely chemical facts are then given, which prove that oxidation-processes are not the exclusive cause or consequence of functional activity.

An elaborate account of ferments comes next, and the doctrine is laid down that all physiological fermentative processes within the body are due to 'unformed,' all pathological to 'formed,' ferments. Fæcal changes within the intestine are here not regarded as physiological, in its narrower meaning. The unformed ferments, or 'enzymes,' are such as ptyalin, pepsin, sugar-ferments, the three pancreas ferments, &c. Formed ferments are represented by the yeast plant (*saccharomyces cerevisiæ*), the organisms turning milk sour, especially the *bacterium lactis*, the *bacillus butyricus*, and the various bacilli cocci and vibriones which determine putridity in all proteids. The battle of the 'panspermists' and 'heterogenists' is fought over again, and Pasteur is acknowledged to have been the first to settle the question on the side of the former.

Each organ and organic product concerned in digestion is examined in order, the latest researches being embodied in the work.' Heidenhain's view—that the particular secretion of a gland (*e.g.* the submaxillary) is owing to the actual dissolution of gland-cells rapidly poured forth at intervals—is directly opposed by the author, who regards the peculiar action of a glandular secretion as due to a conversion of the cell-contents from a material elaborated during rest into the specific constituent of the secretion (*e.g.* in saliva, of mucigen into mucin; in the stomach, of propepsine into pepsine, &c.): the same cells persisting in the gland, instead of being thrown off during every phase of functional activity. Ranvier, Bizzozero, Dewitz, and Stohr are claimed as supporters of Ewald; and Arloing's and Renaut's recent researches appear to establish his conclusion as correct. The latter investigators used staining methods, and came to the conclusion 'that the mucous cells of the submaxillary gland are not destroyed during function.'

As regards the auscultatory sounds which accompany the act of swallowing, it is acknowledged that they are scarcely available for clinical purposes as yet; and Dicksen, after numerous experiments, has come to the same conclusion.

Professor Ewald has made the disorders of digestion his special study for many years; and although the present work is chiefly physiological, it deserves the careful study of every physician as a basis for clinical conclusions. Each address has appended a list of references to recent authorities, which will be found of great service. It is a pity that no index has been made to this very valuable book, affording, as it does, nearly two hundred pages of condensed information.

E. J. Edwardes, M.D.

Article 6311.

Refraction of the Eye. By A. Stanford Morton, M.B. 3rd edition. H. K. Lewis. 1886.

We gladly welcome the appearance of a third edition of this useful little book. Considering its extremely small size, and the largeness of the subject with which it deals, it probably contains as much useful matter as could reasonably be expected. That it serves its purpose is evident from the fact that it has gone through two editions.

It differs from other books on the same subject chiefly in its practical character, and it is only by strict adherence to this, and by so arranging the facts that they follow in logical sequence, that the author can hope to keep the book within those dimensions which are probably in great measure the secret of its success.

We think that in some instances illustrations might have been more freely used, and the letterpress curtailed if necessary. Thus fig. 1 is an attempt to depict several things in a single diagram, and like nearly all such attempts is a failure. We cannot congratulate Mr. Morton on his definition of hypermetropia, as the condition in which 'rays are so changed in direction that they tend to come to a focus behind the retina;' it would have been difficult to have hit upon any definition which, without containing an actual mis-statement, would be so likely to mislead a novice.

The slips that usually mar the so-called 'elementary' manuals have for the most part been avoided, but we note that a cylindrical lens is stated *only* (the italics are the author's) to affect rays which pass through the meridian at right angles to its axis, and that, although unexplained technical terms are generally avoided, 'nodal point' has slipped in. The explanations of the changes in the size of the disc as the object lens is withdrawn, and the visibility of the fundus at a distance in ametropia, as well as the diagrams which accompany the latter are excellent.

We are surprised to see that Mr. Morton still adheres to the theory that there is a normal tone of the ciliary muscle equal to 1 D., and in myopia that the refraction found under atropine must be increased by this amount. We thought the theory had been abandoned, and did not know that even in its most flourishing days it had led to this error of practice.

W. Adams Frost.

Article 6312.

Subjective Symptoms in Eye Diseases. By George Berry, M.D. Edinburgh: Oliver & Boyd. 1886.

The author's aim, as indicated in his preface, is to bring into prominence the diagnostic value of certain subjective eye symptoms in reference both to diseases of the eye and to those of the central nervous system. The book is accordingly arranged into chapters dealing with different symptoms—*e.g.* pain, diplopia, limitations of field, &c., and the indications afforded by each are indicated. It therefore forms a kind of supplement to the ordinary text-books, and each section, if not containing new matter, yet presents the old with a breadth and originality which gives the charm of novelty. This is particularly noticeable in the sections dealing with pain and diplopia, which chiefly treat of affections of the external muscles, a subject to which the author has paid special attention, but on which there is little that is new to be said.

The chapters are reprints of articles which have appeared in the *Edinburgh Medical Journal*, and do not pretend to be exhaustive, but enough is said to make it evident that the subject would afford scope for a joint treatise by a physician and an ophthalmologist which would be most valuable.

The article on 'Colour Vision' contains an able exposition of Hering's theory, with which the author in the main agrees, but its value and that of the chapter on amblyopia is, we consider, much impaired by the absence of all reference to toxic amaurosis, of which the symptoms in the early stage are purely subjective.

The chapter on limitations of the visual field contains much of medical interest. Its value would have been increased by diagrams of the course of the optic nerve fibres. The book is one which will prove valuable to every physician who has made himself competent to examine the visual functions, and will be read with interest by those who chiefly deal with the practice of ophthalmic surgery.

W. Adams Frost.

Article 6313.

The Relation of Hospitals to Medical Education. By Charles Francis Withington, M.D. Boston: Cupples, Upham, & Co. 1886.

This unassuming *brochure* deals with some of the vexed questions in hospital management, and the author in doing so, gives proof of much tact, judgment, and delicacy. In the introduction he insists on the propriety, nay, the duty, of hospital administrators, of adapting the institutions to modern requirements, avoiding, however, any unnecessary departure from the wishes of the founders. The claims of medical education to share in the benefit accruing from the agglomeration of sick people are gently but forcibly advanced, advantage being taken of the opportunity to urge the right of the patient to every consideration at the hands of the hospital staff and the student. The author formulates, indeed, a Bill of Rights which shall secure patients against any injustice from the votaries of science. The occupants of hospital wards, he very judiciously observes, are something more than merely so much clinical material during their lives, and so much pathological material after their death. The author advocates some rather ornate precautions to save the patient from 'subsequent recognition' on the occasion of surgical operations, but this seems a trifle superfluous, seeing that in all probability the same students will have plenty of opportunities of recognising the patient in the wards. Another rather exaggerated requirement would be to obtain *from the patient* a written permission to perform a *post mortem*; a more dismal consent could scarcely be asked or given.

Dr. Withington probably takes a correct view in advocating the abolition of the system of exacting premiums from candidates for the various resident appointments in hospitals, on the ground that it tends to disturb the working of the only proper system of election, viz., that based on merit. He would like to see the number of residents increased and their responsibility diminished, their duty being to carry out the visitant's instructions, and not to 'flounder about in the empiricism of their own immaturity.' The latter phrase may be euphonious but is certainly rather hard on the resident, and, moreover, in all well-ordered hospitals nowadays the resident is far more likely to resort unduly to purely 'expectant' treatment than to 'flounder' in the maze of therapeutics. At the most his experiments will be directed to gauging the relative merits of one or other of the wonderful 'foods' which the author's compatriots push so liberally here. In conclusion some very sensible remarks are made as to the training of nurses, male and female, but this is a subject which is already well before the profession and the public.

Alfred S. Gubb.

Article 6314.

The International Journal of the Medical Sciences, No. CLXXXIII. October 1886. London: Cassell & Co.

The quarter's number of this cosmopolitan publication is more than usually interesting. It begins with a carefully thought-out paper by Dr. Fitz, of Harvard University, on perforating inflammation of the vermiform appendix, with special reference to its early diagnosis and treatment. The curious difficulties of diagnosing the nature and site of the lesion are collated, and some very useful statistics are given bearing on different phases and peculiarities of this affection. It is interesting, for example, to be told that most persons suffering from habitual constipation and accustomed to swallow the seeds of fruit escape inflammation of the appendix. An analysis is given of some 257 cases of perforative inflammation of the appendix to be compared with a similar analysis of 209 cases of typhlitis and perityphlitis, with the object of differentiating the symptoms of these two classes of malady. Dr. Watson Cheyne contributes his second paper on bacteriology, the science now *à la mode,* and Drs. S. Weir Mitchell and Morris J. Lewis contribute conjointly a paper on the tendon jerk and muscle jerk in disease, especially in posterior sclerosis. For a very interesting contribution on 'Insanity and Crime' we are indebted to the pen of Dr. Richard J. Kinkead, Lecturer on Medical Jurisprudence at the Queen's College, Galway. It is virtually a protest against the legal acceptation of the responsibility of the insane or partially insane as laid down by Baron Bramwell. The question of how far we are justified in awarding punishment to a criminal whose mental condition is open to suspicion is cleverly and closely discussed, and attention called to the cruelties and fallacies of the law as it now stands. There exists a tendency with lawyers to underrate the bearing of monomanias, especially if they have no very evident connection with the crime of which the prisoner is accused. As Francis Wharton observes, however, this is manifestly absurd; there is but one mind, and if it be diseased, all or any of its functions may be affected, and afford outward and visible evidence of the disease. The human mind, he observes, is not like a ship constructed with watertight compartments, one or more of which may be waterlogged, having the rest sound and unaffected. Dr. Kinkead appears to express a wish that lawyers might spend six weeks in careful observation in some lunatic asylum, so as to avoid certain errors of conception due to their ignorance of psychological phenomena. We doubt, however, whether lawyers will show any alacrity in acting on the suggestion.

A paper of at least equal interest is contributed by Dr. Finlay, of Havana, on the inoculation of yellow fever by means of mosquito bites. His experiments in support thereof, as well as the information incidentally given on the natural history of the various species of mosquito, are replete with interesting matter. Three papers deal with the much-agitated question of castration in mental and nervous diseases, by Sir Spencer Wells, Dr. Hegar, and Dr. Battey respectively, all of them masters in the art and practice of what used to be called oöphorectomy. These papers possess a great interest, particularly at the present juncture, but we cannot do more than indicate their value.

Alfred S. Gubb.

NOTES ON BOOKS.

Article 6315.

Verhandlungen der Berliner Medicinischen Gesellschaft, 1884–85. (Berlin.)

It is only possible to note a few of the more interesting papers and discussions before this society in the session of 1884–85.

1. In the course of a discussion on *diphtheria,* Küstner related three cases with complete anuria,

convulsions, and fatal coma, but this was held to be a very rare complication. Guttmann held that when the larynx is affected by diphtheria it is always secondary to the fauces, but that there is a true croup of the larynx, which is primary.

Henoch did not agree with this. Bretonneau had produced a membrane in the trachea and larynx by the application of tincture of cantharidis and by other irritants. An ordinary case of laryngitis, if severe enough, can end in membrane. He had observed several such cases. He had also seen casts of the bronchi after the administration of turpentine. Salivation, of which Jaschkowitz had mentioned two cases, is a complication which he had seen but rarely. He had often seen croupous membrane on the fauces and larynx with diphtheritic at the bifurcation of the trachea, and hence concluded they were different stages of the same process. The albuminuria is infective and not febrile, although Weigert and others have failed to find micro-organisms.

At a later meeting Virchow read a paper giving his views at length.

Croup was a term which was originally used clinically, while Bretonneau introduced the term diphtheria as an anatomical term, implying the presence of a membrane with ulceration, and to this use he insists on keeping until he is able to detect a difference in the membranes from cases of diphtheria, scarlatina, or puerperal fever.

Affections of the mucous membrane may be divided into three divisions—catarrh, croup, and diphtheria. In catarrh there is a proliferation of the epithelium; in croup there is a membrane formed by coagulation without any loss of substance, nor can micro-organisms usually be found. In diphtheria there is a necrotic process leading to the formation of a membrane, with a loss of substance beneath, while numerous micro-organisms can be found in the membrane and in the tissue beneath. The prognosis in a case depends on the presence or absence of ulceration.

Diphtheria may be caused by swallowing acids or other irritants.

Croupous pneumonia has no connection of any kind with croup.

The membrane found in the uterus or vagina in puerperal septicæmia is diphtheritic, while the peritonitis is not.

Henoch pointed out that from the physician's point of view the question of infection formed the distinction between croup and diphtheria.

The pathological change which Virchow calls diphtheritic can be produced not only by the contagion of diphtheria, but also by that of scarlet fever, and more rarely by measles, variola, typhus, cholera, and pyæmia.

The prognosis depends upon the general severity of the symptoms, and not on the presence or absence of ulceration.

Fränkel showed that the difference was mainly one of terms: physicians used diphtheria and croup as clinical terms, and would not give them up; pathologists use them as anatomical terms, and Traube has suggested that instead they should speak of necrotic and pellicular membranes. Senator uses 'cynanche contagiosa' as a clinical term instead of diphtheria.

The presence of infection is the determining character for the physician, that of ulceration for the pathologist, and hence the confusion.

[This debate brings out strongly the great disadvantage of the German system of having a specialist as pathologist, so that a different meaning is affixed to words in the *post mortem* room from that which they bear in the clinique. This was also well shown at Vienna last winter, when a case of variola with phlegmonous enteritis was described as one of dysentery at the *post mortem* on account of the appearance of the intestine.]

2. Karewski showed two patients, aged 66 and 70, with *lymphadenoma*, who had improved in health, and the tumours had decreased greatly in size under treatment with arsenic.

3. Sonnenburg detailed a case of *intraperitoneal rupture of the bladder*. The patient, aged 36, slipped on the stairs, became unconscious, and when seen a quantity of bloody urine was drawn off by catheter; twenty-four hours later the patient complained of slight tenderness on pressure over the bladder, pulse 80, no symptoms of peritonitis, and he felt fairly well, but his urine had to be drawn off with a catheter. The diagnosis was a partial rupture of the bladder, as in none of the cases which Bartels had collected was it possible to withdraw any quantity of urine when there was a complete rupture of the bladder. Twenty-four hours later, however, the patient was extremely ill with general peritonitis, and a very small pulse of 60. Under chloroform a median abdominal incision was made, when it was found that there was commencing peritonitis with some extravasation of urine, and that the posterior wall of the bladder was completely ruptured from the vertex to the neck. An incision was made in the urethra, and a thick drainage-tube passed through this into the bladder, through the rupture and out by the abdominal incision, it being impossible to sew up the rupture on account of its position. The patient for two days was pulseless, cold, and collapsed, with severe peritonitis, but his condition improved so much on the third day that it was hoped he would recover. On the fifth day symptoms of infiltration of urine with septicæmia appeared, from which he died on the eighth day.

4. Mendel on a case of *peripheral neuritis* due to diphtheria. A boy, aged 8, had diphtheria on Sept. 28, which was followed by ocular paralysis with general paresis and failure of the knee-taps, and ended fatally six weeks later from respiratory paralysis.

Post mortem, there were some capillary hæmorrhages in the pons and medulla. The oculo-motor, adducens, and vagus nerves showed marked interstitial and parenchymatous neuritis.

Remak had frequently seen hemiplegia after measles and scarlatina, but only twice after diphtheria in children, aged 7 and 8 respectively. Cases of slight ataxia with loss of knee-tap due to diphtheria may be distinguished from tabes dorsalis by the absence of the Argyll-Robertson pupil.

5. Eulenburg showed a patient, aged 39, with ataxia, Argyll-Robertson pupil, gastric crises, and loss of knee-tap, combined with symptoms of progressive muscular atrophy, thus illustrating Charcot's deuteropathic progressive muscular atrophy.

6. Ewald on *early paracentesis in ascites*. The history of a woman, aged 63, is detailed, who for thirty-one years had enlargement of the liver with ascites. Paracentesis was performed, one, three, and nine years after the appearance of the first symptoms, but latterly more frequently, during the last four years every month or six weeks. She has been tapped eighty-seven times; about 20 litres are drawn off each time of a clear yellow fluid of a

specific gravity of 1012–1015, containing peptones and albumen to the amount of 2·78–4·12 per cent. This corresponds to a loss of about 21 grammes a day, while about 3 grammes daily is a large amount of albumen to be passed in the urine of Bright's disease. The patient is otherwise in good health, and does not suffer from the albuminous loss. The second case was a woman, aged 52, with sudden development of ascites, who was tapped four times, and discharged cured at the end of six months. Henoch drew attention to the not infrequent occurrence, both in children and adults, of an idiopathic peritonitis which was curable, and thought that these were the cases that benefited by early tapping; in cases of cirrhosis he doubted if it were beneficial.

7. On *Hemiglossitis*, which is an acute inflammation strictly limited to one half of the tongue, and is often associated with lingual herpes. Some cases Sonnenburg considered were local abscesses which required incision, while others were neurotic in origin. The herpetic cases Lewin considered were probably due to irritation of the lingual-gustatory nerve. Remak recorded a case in which the herpes was due to irritation of the chorda tympani in the Fallopian canal.

8. In a discussion on *Ileus*, almost every one recommended that the stomach should be washed out, in order to relieve the vomiting and other distressing symptoms, but it was not likely to be curative, excepting in cases where there was merely an accumulation of fæces. As soon as the pulse became small and rapid, and the patient's aspect abdominal, laparotomy should not be delayed, as the fatality of the operation is enormously increased when much peritonitis is present. The real difficulty, however, lies in the uncertainty of the diagnosis.

Bardeleben recorded two cases which were cured by operation: 1, man, aged 24, history of ileus six days, whose small intestine was freed from two bands binding it down. Owing to the vomiting and restlessness of the patient after the operation, the abdominal wound broke down, but ultimately he recovered. 2, man, aged 40, with volvulus with fourteen days' history.

He also referred to the following cases of laparotomy, to show the difficulty of diagnosis:—

a. Man, aged 27, with history of injury two days previously, in whom he found a rupture of small intestine, 3 centimètres long, with septic peritonitis, fatal twenty-four hours later.

β. Old man, with inguinal hernia and movable tumour in inguinal canal, and history of vomiting and peritonitis for some days. On operation, this was found to be a carcinoma pylori, which had ulcerated through the gastric walls in two places, so that there was castor-oil in peritoneal cavity. He survived a few days.

γ. Cases of carcinoma of omentum and of pancreas, which had been operated on as cases of ileus, and recovered from the operation, and one of carcinoma of peritoneum, which was fatal two days later.

He records three cases in which the operation was performed too late:—

a. Man with hernia which was reduced, but symptoms of obstruction persisted, yet so much were these relieved by washing out the stomach that the operation was deferred till the sixth day, when a band which bound down the intestine was divided; the peritonitis which was present increased, and was fatal five days later.

b. Patient in whom he divided a strong band constricting the small intestine, and removed a small gangrenous diverticulum, which had been confined in a pouch near the cœcum, the aperture in the intestine being sewn up. Fatal next night.

c. Patient, with history of obstruction for six days, whose coils of small intestine were so distended that they could not be replaced, and it was necessary to open the small intestine, making an artificial anus to let out an enormous mass of fæces; the patient dying shortly after from collapse.

Bergmann has twice seen cases of laparotomy otherwise successful, which died from pneumonia due to vomit sucked into the trachea, which would have been avoided if the stomach had been washed out.

Hahn has performed laparotomy twelve times, with three recoveries, having found the cause of obstruction in all but two. There were three cases of carcinoma of colon and of hernia with reposition *en masse*, and one respectively of stricture of small intestine by band to uterus, peritoneal carcinoma, volvulus, gangrene of intestine due to blood-cyst, peritoneal adhesions, and obturator hernia.

9. In a case of lumbar spina-bifida, Remak noted that there was paralysis of the bladder, sphincter, and of all the muscles of the legs (*i.e.* below the knees), except the tibialis anticus; showing that its spinal centre was higher up than those for the other muscles of the legs.

10. A case of paralysis of the sympathetic of the neck and arm from the pressure of a goître was detailed by Lewinski. On the right side the eye was slightly retracted, and hence there was ptosis; the pupil was smaller, and the intra-ocular tension diminished. The right side of the face was slightly atrophied, and did not perspire. There was a slight increase in the size of the forearm and hand, but not of the arm, due to a deep-seated œdema, and the surface temperature was lower. Probably the first dorsal and lower cervical ganglia were pressed upon. Cases of sudden temporary local œdema were associated with neuralgia or urticaria.

Westphal had seen cases of unilateral sweating in people otherwise well, and twice with tabes. Remak observed that in lesions of the lower part of the brachial plexus there were often symptoms of the cervical sympathetic being affected, but that oculo-pupillary symptoms were absent when the lesion was in the upper part of the plexus. Sixty per cent. of the cases of sympathetic lesion were associated with pigmentary changes.

11. Senator opened a discussion on the treatment of *typhoid fever*.

At the general hospital at Hamburg, between 1874–77, 937 cases were treated without cold baths and 568 by means of them, the mortality for the two systems being identical, viz., 7·2 per cent. During 1875–84, at eight hospitals in Berlin, 12,975 cases were treated, with a mortality of 1901, *i.e.* 14·6 per cent. In four of the hospitals 2,635 men were treated, with a mortality of 422, *i.e.* 16 per cent., and 2,150 women with a mortality of 278, *i.e.* 13 per cent. The mortality of children under 15 is less, and that of adults over 40 is greater, than of persons between these ages. Out of 18 women who were pregnant, 10 aborted and 3 died.

In the Augusta Hospital, Berlin, the mortality was 12·3 per cent., but of the private cases which came into the hospital and were usually severe, 18·5 per cent.

That the pyrexia alone is not sufficient to account for the general condition of patients is shown by injecting a glycerine extract of pus or sputum under the skin of a rabbit or dog; pyrexia results, but the animal has good appetite, has no extreme thirst, and looks well; but, if pus or sputum be injected, symptoms of severe constitutional disturbance also ensue. Volkmann and Genzmer have shown that in some wounds treated antiseptically the temperature may reach 104°, and remain high for one or two weeks, and yet the patient may retain his appetite and feel well.

The examination of these statistics neither shows any marked decrease in the mortality nor any increase in the number of cases of hæmorrhage or relapse, when the cold-bath treatment is adopted. As a mere antipyretic, antipyrin, &c., act better than a cold bath, but the latter is most beneficial by acting as a cutaneous stimulus similar to its action in cases of intoxication.

For hæmorrhage half-gramme doses of bismuth every hour are recommended, and for collapse a subcutaneous injection of ether one part, ol. camph. nine parts, or of strychnia, or a clyster of hot wine. A warm bath is the best sedative for insomnia.

Goltdammer, who advocated cold baths, stated that of 3,600 cases treated at the Bethaneum the mortality was 12·8 per cent., but that if the cases, which were admitted later than the second week (of which the mortality was 36 per cent. and which, therefore, had no baths during the most important period) were excluded, the mortality fell to 9 per cent. The mortality of cases over 40 years of age was 41 per cent.

During 1849-64 the typhoid mortality in the Second Army Corps at Stettin was 25·9; after the introduction in 1865 of cold bathing it fell to 8 per cent. The mortality among the cases in the Prussian Army is 10 per cent., in the Austrian 26·8, in the Italian 28·36, and in the French 36·5 per cent. The expectant method, he considered, gave very bad results.

12. Is it possible for the lardaceous degeneration of organs to retrograde, and for them to recover their function?

Herr Litten thought that in some cases of syphilis and of chronic bone-disease this was possible. He had found that even in extreme cases of degeneration the vessels remained patent.

Herr Lewin thought that clinically he was justified in considering cases of syphilis in which the anæmia and albuminuria disappeared, and the enlarged glands, spleen, and liver became smaller, as cases of lardaceous disease which had practically recovered.

13. Among other papers were one on extirpation of the kidney by Bergmann, and one by Virchow, on some cases of poisoning, which occurred at Wilhelmshaven through eating mussels.

Article 6316.

Verhandlungen der Physikalisch-Med. Gesellsch. zu Würzburg. Band xix. (Würzburg, 1886.)

Fick in this volume contributes some observations on the development of heat in muscle at different temperatures. Reuter describes six cases of hermaphroditism in animals. There is a full account of the drainage of Würzburg by Hügel.

Theodoroff strongly advocates the administration of kephir, a fermented form of milk closely allied to koumiss, to patients suffering from dyspepsia or anæmia. The most severe cases of dyspepsia, where other food was rejected, rapidly improved on kephir; the pain, sickness, and diarrhœa disappearing, and the weight of the patient rapidly increasing. The number of red corpuscles in cases of anæmia was soon increased.

Article 6317.

Medizinische Jahrbücher. Heft iv. 1886. (Wien.)

Von Marxow gives minute directions for the use of the new Hæmometer sold by Reichert of Vienna. Very good results are obtained by this method, which consists in moving a selected prism of glass of uniform tint along a graduated scale on the stage of a microscope, until the amount of light which passes through cannot be distinguished from that which passes through an adjacent layer of definitely diluted blood.

Kosjurin has observed that lardaceous material does not, as is stated in the text-books, withstand peptic digestion, but will slowly disappear if it be finely broken up and the digesting solution be strong. This observation is corroborated by Ludwig.

Lerner gives the results of his examination of secreting glands in dogs, in the veins of which sulphindigotate of soda had been previously injected.

Kanders, on injecting croton-oil into the anterior chamber of one eye of a rabbit, noticed that there was a temporary pericorneal congestion of the opposite eye.

Article 6318.

Medizinische Jahrbücher. Part VII. 1886. (Wien.)

Dr. Tahor has found that a few micro-organisms are normally present in the tissues of healthy animals. Dr. Kahrbel records the results of some experiments on the excretion of indigo-carmine by the kidneys.

G. N. Pitt.

Article 6319.

A Contribution to the Study of Nerve-cells in Peripheral Ganglia. By Elena O. Koneva. (*Berne Inaugural Dissertation*, 1886, pp. 34, with 6 illustrations.)

Dr. Elena O. Koneva, of St. Petersburg, has examined under the guidance of Professor Max Flesch, of the Berne Veterinary School, the structure of the spinal ganglia and ganglion Gasseri in man, ape (*Hapalemur Silvanus*), cat, fox, rabbit, horse, ox, calf, ox-embryo, and pig. The examination was conducted after the methods given by Professor Flesch in the *Zeitschr. für Wissenschaft. Mikroskopie*, vol. iii., fasc. 1, p. 49. The results the author arrived at may be summarised thus. 1. Both in the spinal ganglia and ganglion Gasseri in mammals there exist, in the main, two distinct kinds of nerve-cells, which differ in their structure, size, micro-chemical behaviour, and number. 2. The cells of one kind are characterised above all by—(*a*) their but slightly taking in stains (Flesch's *Chromophobe* or *helle Zellen*); (*b*) their larger size [*e.g.* 79·2 × 68·76 micro-millimètres in fox's ganglion Gasseri, 78·12 × 85·68 in fox's spinal ganglia, 100·8 × 94·46 in ox's ganglion Gasseri, 60·16 × 126·90 in ox's spinal ganglia, &c.]; (*c*) their form, the chromophobe cells being mostly spheric; (*d*) their protoplasm being comparatively less granular, and containing a light marginal zone; (*e*) their nucleus being spheric, vesicle-like, sharply circumscribed, distinctly granular, containing one or two large nucleoli, and badly stained (only the nucleoli and granules take in dyes); (*f*) their lesser tendency to the formation of vacuoles (in the marginal zone with a subsequent separation of the protoplasm from the cellular capsule); (*g*) their being present invariably in correspondingly far lesser numbers [*e.g.* the respective percentage figures for the chromophobe cells in the ganglion Gasseri and spinal ganglia in man are 21 and 37, in ape 10 and 31·5, in cat 20 and 34, in fox 14 and 23, in pig 12 and 33·5, &c.]. 3. The cells of another kind are characterised above all by—(*a*) their well taking in stains (Flesch's *Chromophile* or *dunkele Zellen*); *b.* their smaller size [*e.g.* 55·44 × 43·92 micro-millimètres in fox ganglion Gasseri, and 66·08 × 46·80 in fox spinal ganglia; 92·18 × 69·48 in ox ganglion Gasseri, and 101·16 × 91·08 in ox spinal ganglia, &c.]; *c.* their form, the chromophile cells being either polygonal or oval; *d.* their protoplasm being equally granular, and containing no light marginal zone; *e.* their nucleus being oval or pear-shaped, equally granular or almost homogeneous, slightly fringed and well and equably stained; *f.* their greater tendency to the formation of vacuoles in the marginal part of the protoplasm, with separation of the latter from the cell's capsule; *g.* their being present invariably in greater numbers. 4. There exists also an intermediary form of the cells between the two main varieties—the 'half-dark cells,' with a light marginal zone and vesicle-like nucleus. They seem to be progenitors of both of the extreme or main forms. 5. The differentiation of cells exists already in the fœtal life (as the examination of an ox-embryo, 40 centimètres long, has proved). The fœtal ganglia, however, contain but few entirely 'light' cells and no entirely 'dark' ones. The indifferent embryonal tissue, which consists mainly of 'half-dark' cells, is probably identical with 'half-dark' cells of the adult life. 6. The number of the chromophobe cells in the ganglion Gasseri is invariably less than in the spinal ganglia (see under 2). 7. In the younger animal the number of the chromophobe cells seems to be larger than in the older. The darkest forms are seemingly senile forms. 8. The number of the chromophile cells in the ganglion seems to increase after a prolonged intense faradisation of the corresponding peripheral nerves. 9. The differentiation of nerve-cells in ganglia is influenced by the development, senescence, and function. 10. The polymorphism of the nerve-cells in peripheral ganglia seems to be connected with differences in their functions.

V. Idelson, M.D.

NEW PREPARATIONS.

RIGA BALSAM.

This old and well-known preparation, which has been manufactured at Riga for more than a century, is now the property of Mr. A. Wolfschmidt, of that town. Our analyst, who has been making experiments with it, says:—'I have carefully tested two samples of the above; they are both undoubtedly genuine samples of Riga Balsam. This substance has been known and highly appreciated for a great number of years. It is prepared by carefully distilling the resinous matter from a species of pine. The samples analysed have a pleasant smell of balsam after the removal of the alcohol; there is no cane sugar or saccharine matter present, and the spirit is of good quality and has a soft and mellow flavour. The light-coloured sample contains a small quantity of a slightly bitter substance of agreeable flavour. The dark-coloured sample gives a large amount of residue, which consists of vegetable substances, including liquorice. It would be beneficial when taken medicinally in cases of dyspepsia.

The English agent for Riga Balsam is Mr. Maurice Meyer, Savage Gardens, Tower Hill.

NEW INVENTIONS.

PATENT CARBON CONES, AND CASES FOR HOSPITALS, ETC., FOR THE PRODUCTION OF VAPOURS AND GASES.

By this patent a method has been perfected whereby the vapours of a great number of substances are readily procured, and many gases are produced. It is claimed that the identities of these substances are not destroyed by this process, and that the vapours from them, as well as the gases, are in a state of tenuity of a very remarkable character. It is suggested that a means appears thus to have been provided of a practical character, by which the medical profession can more fully study the uses of vapours in their practice. Nothing can exceed the simplicity of the construction of these cones, and the method of applying the agency of heat is said to answer admirably the ends in view. Their portability and readiness to hand is an element also of practical value. Hitherto when it has been desired to administer and use medicaments in a vaporised condition, the process has implied some elaborate contrivances and a degree of trouble in preparation which have often proved an obstacle in the free use of valuable agencies in the treatment of specific cases. There also appears to be a large field open for these cones as disinfecting and antiseptic agents, as their power of dispersing a dry, attenuated, and active gas or vapour may prove advantageous in cases of all kinds of fever of every description, for it will be possible under the advice of the medical attendant to use these cones freely at any time for the destruction of microbes and germs of all descriptions. Practical research, however, will be necessary to find out the best agent to be employed for the destruction of the various organisms, as some principles in a vaporised state have specific action on one type, whilst others may be found more destructive of others. These cones are likely to prove very useful to medical men, and especially so to officers of health. We have had before us specimens which produce a considerable volume of pure oxygen gas, chlorine gas, iodine vapour, sulphurous acid gas, carbolic acid and iodine, carbolic acid, carbolic and aromatic acetic acid, camphor and eucalyptol, and samples in which some few of these agencies are accompanied with perfumes, thus making the vaporised substances pleasant and grateful to the olfactory sense. Cones for medical and surgical purposes are also to be had. For instance, terebene, as diffused by one of these cones, has an undoubted action on the mucous membrane, and excites expectoration. It would be quite possible to fill these cones with principles which will prove effectual in many affections of the mucous tract. We are informed that they are capable of being employed for topical purposes—such as for treatment of wounds, &c., with carbolic acid, iodoform, mercury, and other drugs, and also for certain skin diseases. Should these statements prove to be accurate, a new and valuable agent will be added to the therapeutic armoury. The whole matter of vapours, especially in connection with this patented system, is one that will repay careful investigation and study, and is worth the attention of the medical profession. The cones are manufactured by the North Hants Manufacturing Company.

NEW MEDICINAL SOAPS.

We have received from the Milton Chemical Company of Glasgow several samples of medicinal and disinfectant soaps containing iodoform, corrosive sublimate, yara-yara, and blue gum. The corrosive sublimate soap contains 8 grains of the salt to 16 ounces of soap, which is sufficiently attenuated to obviate any risk of irritation following its use. The odour of iodoform in the iodoform soap has been effectually disguised, and may be used without any fear of carrying about the powerful and unpopular fragrance which is generally associated with its use. The blue gum tree and the yara-yara soaps are elegant examples of antisepsis in toilette applications. We can cordially recommend these soaps as valuable and useful additions to toilet appliances. The indications for their employment are too numerous to mention.

MISCELLANY.

Dr. Gunning, of Edinburgh, and Rio de Janeiro, has intimated his intention of instituting in the Royal College of Surgeons of Edinburgh a Triennial Victoria Jubilee Prize to be associated with the name of Liston, for the greatest benefit done to practical surgery by any member of the College during the triennial period. The prize will be of the amount of £100, to be awarded every third year.

The baths at Bournemouth, hitherto known as the 'Mont Doré' Establishment, have, after many changes, passed into hands under which they will be simply at the disposal of the members of the medical profession for use, at discretion, being no longer under special control, and having no resident medical officer. It is hoped that this may clear the way for their more general use for health purposes.

The Société Médicale du Panthéon considers th pulmonary phthisis may be cured by means of inhalations, which are favourable to cicatrisation and destroy microbes. In order to arrive at an absolute certainty, this society has offered a prize of 1,000 francs (£40), to be awarded in 1887 for an experimental demonstration that microbes or the bacilli of pulmonary phthisis cannot live nor multiply when submitted to the influence of hydrocarbon compounds or the following substances:—Venice turpentine; essences of turpentine, of lemon, mint, and aniseed, and eucalyptus; Norwegian tar, coal tar, benzine, petroleum, carbolic acid, thymol, creosote, pyridine, terpene, iodoform, iodine, ether, chloroform; tincture of iodine, of benzoin, of tolu; *balsam du commandeur*, camphorated alcohol, sulphur and sulphurous preparations, or any other substances which have been successfully employed as inhalations. (2) Nor in an atmosphere saturated with those substances at a temperature of 37° C. (98°·6 F.). (3) Nor in the tissues of the lung impregnated with them. The essays sent in to compete for the prize must be legibly written in French. All communications concerning phthisis must be directed (franco) to the Société Médicale du Panthéon, or to the Secrétaire Général (Dr. Sandras), 24 Rue Rambuteau, Paris.

Influence of Solar Rays upon Microbes.—At a recent meeting of the Paris Biological Society, M. Straus made a communication respecting the action of luminous rays upon microbes. M. Arloing has stated that the spores of the bacillus anthracis placed in cultivations of broth and exposed to the sun are destroyed, whilst vegetating mycelium requires to be exposed much longer to the solar rays. This fact is interesting, if the resistance of these spores to all influences is borne in mind. MM. Nocard and Duclaux advanced the hypothesis that the solar rays acted much more upon the cultivation than upon the spores. M. Straus has confirmed this hypothesis in the following manner. The spores, placed in pure distilled water, resisted the action of the solar rays to which they were exposed for four hours; placed in broth, they were destroyed at the end of two hours. M. Duclaux stated that he had observed during similar experiments he had made that the period of two hours, which is sufficient to destroy young spores, is not sufficient to destroy spores of two or three years old. M. Straus stated that his experiments were made with spores two or three months old. M. Duclaux's experiments were made with much older spores. M. Chuveau added that spores of the bacillus anthracis when two or three months old may be considered young.

A Case of Snake Bite.—At a recent meeting of the Paris Surgical Society, M. Terrier communicated a case of snake bite, which had caused serious symptoms, but which was finally cured. A showman at a menagerie was bitten by a snake; the bite was cauterised, but considerable œdema appeared. M. Pluyette (Marseilles) practised local injections of tincture of iodine, and prescribed a general treatment. The œdema increased, and serious general disturbance ensued twelve hours after the accident. The general symptoms improved, but the œdema continued to increase, and gangrene appeared imminent. An hour later, however, the patient recovered. Slight œdema of the arm remained. The treatment consisted of cauterisation, injections of tincture of iodine, of the administration of diffusible stimulants, and an emetocathartic. Antiseptic baths were taken. Immediately after the bite was inflicted the patient tied a ligature tightly round his arm to prevent absorption.

At a recent meeting of the Society of Otology and Laryngology, M. Moura called the attention of his colleagues to the beneficial results obtained by painting the nasal mucosa with chloral hydrate of cocaine, and by injections of the same solution in the Eustachian tubes in cases of obstruction. M. Gellé described several cases of nasal hæmorrhage in which plugging had caused inflammation in the ear, accompanied by suppuration and perforation of the tympanum; in some cases in both ears. According to M. Gellé the putrefied blood penetrating to the Eustachian tubes caused the inflammation, although the plugs had only remained in during forty-eight hours. M. Moura (Paris) read a paper before the Society concerning the arytenoid muscle, in which he developed the theory that the physiological function of this muscle is the same as that of the posterior crico-arytenoid muscle. This muscle opens the glottis, and is not a constrictor of the glottis as is generally believed. M. Moura demonstrated the truth of his opinion by indicating on his own larynx, by means of the laryngoscope, the manner in which the glottis opens in its posterior portion only, by the separation of the two arytenoid muscles, and accompanied by a peculiar clanking sound. The author then communicated a case of anomaly, concerning the thyroidal insertion of the right vocal chord in a child one year old which died at the Hôtel Dieu in 1874. M. Menière read a paper on an interesting case of peculiar abnormal development of the pavilion of the left ear. M. Chatelier communicated a case in which a fibro-mucous polypus occupying the entire naso-pharyngeal cavity was removed by means of Chassagnac's *écraseur* without any traces of hæmorrhage.

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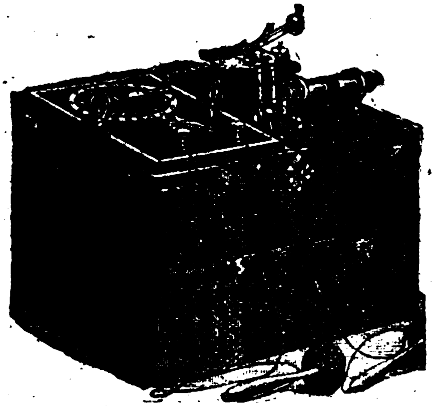

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TREATMENT OF NEURALGIA.—Letter from Mr. Metcalf Johnson, M.R.C.S., L.S.A.

[*To the Editor of* '*THE MEDICAL TIMES AND GAZETTE.*']

'Sir,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is in my mind so likely to afford relief to suffering humanity that I do not feel justified in withholding it? The treatment consists in painting the part affected with ANODYNE AMYL COLLOID prepared by Messrs. FERRIS & CO., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelseminum and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

'J. B. called one morning, suffering from facial neuralgia in all the four points of the surface development of the facial nerves. I painted his face over the four spots, and before the liquid was dry his pain was gone. It returned the next day, but was again relieved by the remedy, the relief lasting for twenty-four hours.

'I met A. B. in the street, who was complaining of an obstinate Neuralgia, which had resisted several of the usual remedies. A trial of the treatment here indicated was attended with immediate relief.

'It has been tried, I believe, at my suggestion by one member at least of a family of three of my professional brethren.

'A patient suffering from podagric Neuralgia of the fore-arm finds such relief that frequent resort is had at night to the use of the painting with the ANODYNE COLLOID.

'A few days since, a lady suffering from that painful affection called "soft teeth," caused by caries, and in whose case considerable swelling was apparent, found immediate and permanent relief by painting the cheek with the remedy.

'A clergyman, of very high nervous organisation, and in whom, as is often the case, considerable strength of mental power is developed, described the relief which was obtained by use of both the remedies as "like magic." In several other instances, of which I have kept no record, relief has been obtained by the use of one or both remedies.

'Hoping this will induce more of your readers to try the remedies suggested, I leave the case in your hands, merely adding that the ANODYNE AMYL COLLOID professes to be a solution of Aconitine and Veratrine with Hydride of Amyl in a medium of Collodion; but the proportions are not stated. The Tinctures of Gelseminum and Guarana are in all probability better known to your readers. I have, at the request of Messrs. FERRIS & CO., already given them my testimony to the value of their preparation, in a letter addressed to them a few weeks ago If you will kindly insert these few remarks in your paper, I think you will oblige many of your subscribers, as you will also,

'*Lancaster, May* 1878. 'Yours, &c., METCALF JOHNSON.'

[*From* '*THE MEDICAL RECORD*,' *London, May* 15, 1878.]

'We have submitted to trial the "ANODYNE AMYL COLLOID," prepared by Messrs. FERRIS & CO., of Bristol. It is prepared with Hydride of Amyl, holding in solution Aconitia and Veratria, and combined with Ethereal Collodion. *We have tried it in Neuralgia and Muscular Pains with marked benefit.*

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